DOCUMENT RESUME

ED 315 891 EA 021 633

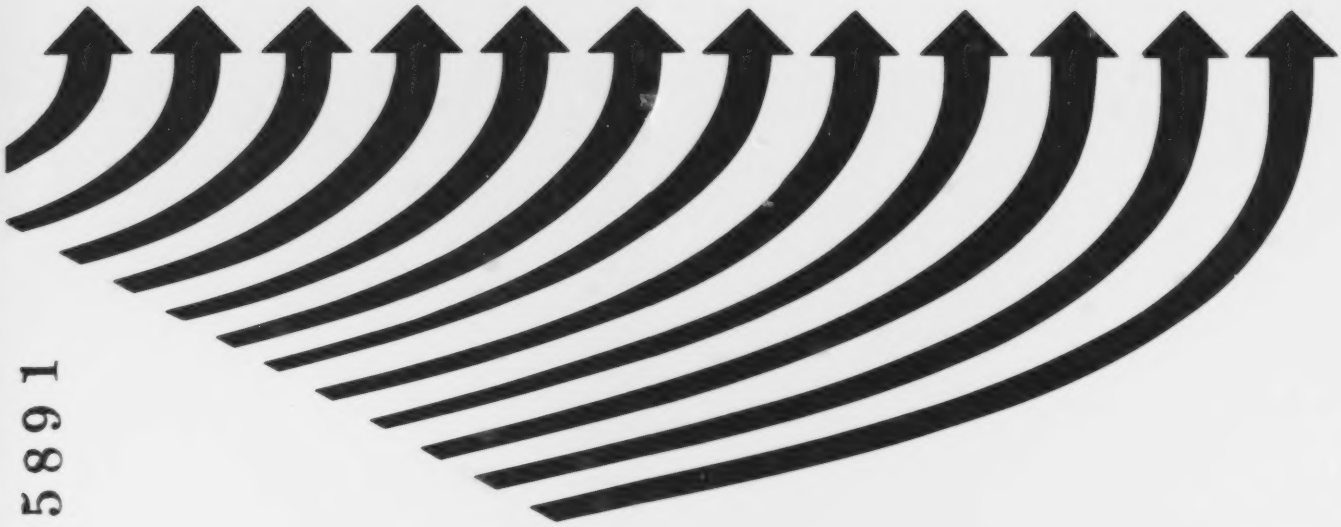
AUTHOR Hart, Leslie A.
TITLE Guide to School Change.
REPORT NO ISBN-0-933-125-01-1
PUB DATE 85
NOTE 105p.
AVAILABLE FROM Books for Educators, P.O. Box 20525, Village of Oak Creek, AZ 86341 ($12.50 plus $3.00 postage and handling).
PUB TYPE Guides - Non-Classroom Use (055) -- Viewpoints (120)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Administrator Characteristics; *Administrator Effectiveness; Change Strategies; *Educational Change; *Educational Innovation; Elementary Secondary Education; Learning Motivation; Learning Theories; Pilot Projects; School Organization; Teacher Role; *Team Teaching

ABSTRACT

Whatever the past achievements of our schools, very few today bring about student learning even remotely up to the minimum requirements of a nation such as the United States; small improvements in the educational system will be of little consequence in light of the huge deficits and the country's increasing needs. Most of the large, complex plans for reform or improvement now being advocated or implemented do not address the key element of educational success: student learning. The new understanding of the human brain, "the organ for learning," enables education to have--and to work from--a comprehensive theory of learning. The concept of brain-compatible education offers a clear, practical guide for applying learning theory and for obtaining enormously better learning outcomes from all students. Additionally, educators are able to plan and to bring about school change of the magnitude necessary to produce positive learning results by using the practical and least risky "pilot method"; still better organizational structures and methods can be developed with the help of teacher and principal contributions. Finally, when students learn reliably, the other problems in education, including discipline, teacher burnout, high costs, absenteeism, and public dissatisfaction, tend to evaporate. (KM)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********



ED315891

# Guide to School Change

Leslie A. Hart

ISBN 0-933-125-01-1

EA 021 633

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

K. D. Olsen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

# Guide to School Change


by Leslie A. Hart

Editorial Director,
"CUTTING EDGE" Advisory Letters

Author of
HUMAN BRAIN AND HUMAN LEARNING
(Longman, New York, 1983)

HOW THE BRAIN WORKS
(Basic Books, New York, 1975)

THE CLASSROOM DISASTER
(Teachers College Press, New York, 1969)



BRAIN AGE PUBLISHERS, P.O. Box 427, New Rochelle, New York 10802
A Unit of Rolles Edan, Inc.

# Guide to School Change

**Brain Age Publishers,** a unit of Rolles Edan, Inc.,
Post Office Box 427, New Rochelle, New York 10802.

Copyright ©1985 by Leslie A. Hart.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopy, recording, or otherwise, or used as the basis of computer software, without the prior written permission of the publisher and author.

Manufactured in the United States of America.

ISBN 0-933-125-01-1

# CONTENTS


The Purpose of This Guide 1

How Much School Change Is Needed? 2

The Core of the Problem: Student Learning 3

We Must Face Up to the Realities 4

How Large Are the Main Learning Deficits? 5

"School Change"--What Is and What Isn't 8

Questioning the Status Quo --All of It 11

Stopping Can Be Harder Than Starting 12

Is It Better to Effect Changes Gradually? 14

Using the "Pilot Project" Technique 15

How Does the Pilot Program Compare for Speed? 18

Change Means Changing What People Do 19

School Authority Is Often Limited 21

School Change Requires A Master Plan 23

SUMMING UP THE KEY IDEAS 25

THE RHETORIC VOCABULARY OF SCHOOL CHANGE 27

CHANGING SCHOOLS TO OBTAIN BETTER LEARNING 31

Nobody Loves, or Enjoys, Failure 32

Is Learning Really Wanted? 34

ENTER THE BRAIN, AND A NEW AGE OF EDUCATION 35

A BRIEF INTRODUCTION TO THE BRAIN 41

PART TWO

SOME ALTERNATIVES IN EFFECTING CHANGE 45

Defensive/Aggressive 46

Investigate/Resist 50

Sources of Pressure 52

Curriculum Decisions 56

Control/Freedom 59

Higher Expectations 62

Order/Learning 64

Group/Individualize 66

PRIME OBSTACLE: THE CLASSROOM 69

Teach/Provide 71

Increments/Large Jumps 75

"Free the Teachers" 77

Teachers' Roles 80

PRINCIPALS, THEIR ROLE, THEIR NEEDS 83

Manager/Leader 84

Some Sources 86

A Few Cautions on Research 87

On the Perils of Testing 89

PEOPLE HANDLING 92

A PEOPLE PROGRAM FOR MAJOR CHANGE 95

A Parting Summary 99

Guide to Reading 100

## THE PURPOSE OF THIS GUIDE

is to clarify what is meant by "school change."

"School change" is a complex, slippery concept. The phrase is easy enough to say--but hard to pin down so there can in due course emerge agreement on what to do.

This Guide is action-oriented. It should help you narrow down and then make decisions. It aims to provide some "handles" that make the questions raised by school change easier to get hold of.

This small book does not presume to tell you what to do. Rather, it focuses on choices. When available choices become clearer, decision-making can be a lot easier.

Plainly, education is entering a period during which change will demand a great deal of decision-making. The burden will be greatest on Boards of Education, Superintendents, and Principals, and also on state officers and legislators. Many others will be involved. We hope this Guide will prove helpful to all.

## HOW MUCH SCHOOL CHANGE IS NEEDED?

This Guide is not for the faint-hearted.

It does not try to minimize problems and shortcomings. On the other hand, it does not seek to recite them at length.

The focus is on what to do. Realistically, what are the choices?

We believe much can be done. Schools can be greatly improved, and many of the changes can be effected sooner than many people appear to believe.

But we cannot gloss over what is wrong.

Our school system is old (well over a century), out of date, tired, snarled in encrusted bureaucracy.

We cannot make our schools fully adequate to our national and community needs by a small change here and a minor improvement there. Public, parents, and taxpayers will not be fooled or contented by a little "windowdressing."

We need to look hard and honestly at what we have, and what we should have...and then boldly and vigorously tackle the job of change.

All of us are used to schools that have gone on year after year changing very little. That can no longer be tolerated. If public schools do not change rapidly, in major ways, they may well be pushed aside.

We need a great deal of change, and we need it fast.

That is the point of view of this Guide. You may not fully agree. But we hope you will at least consider seriously the choices that are examined.

Some of the ideas presented may sound strange--even seem the opposite of beliefs we have all been brought up with about schooling. But then, we are living in the age of the atom bomb, trips to the moon, the computer, new technology, new understanding of human nature...yesterday's "crazy idea" becomes part of today's ordinary living.

## THE CORE OF THE PROBLEM: STUDENT LEARNING

The overwhelming problem that schools have today plainly is that students do not learn enough.

They do not learn nearly enough, in general. For all but a few students, the learning accomplished, at all levels, tends to be weak, fragmentary, superficial, and temporary--much of it soon forgotten after the student has "passed." Mountains of evidence, as well as daily observation, show that students do not often emerge from 12 years of schooling well prepared for work, training, or higher education.

Student attainment compares very badly with that of many of the modern nations with which our country must compete.

Strangely enough, most of the discussion of school reform and "excellence" as a goal does not focus directly on the learning attained by students!

> This Guide suggests that unless student learning is greatly improved, rapidly, schools as we have known them will not survive.
>
> Also, we will suggest that student learning can be hugely improved, using resources we now have or can readily get.
>
> In short, schools are not helpless, nor defeated before they begin. School decision-makers have the power and ability they need to make major moves toward excellence.

## WE MUST FACE UP TO THE REALITIES

One large obstacle to vigorous and effective school change is widespread reluctance to say "out loud" how poorly students learn in our present conventional schools (which tend, apart from minor variations, to be very much alike across the country.)

School people have long been under attack and criticism, much of it ill-informed and unfair. Naturally, many feel insecure and defensive.

> Some educators offer excuses. "You don't understand the problems we have," they may say. Or they will blame the sad state of society, divorce and the breakdown of the family, the erosion of authority and trust in institutions, and so on down a long list. But the public does not like excuses. They are likely to say, sooner or later, "If you can't do the job, we will have to find others who can."
>
> Other educators offer comparisons. "We are not as bad as some other schools," they will say. Or they will turn to sweeping statements about how large and ambitious the public education effort has been. True or not, all this is beside the point. Report after report has found the schools to be grossly inadequate, and the deficits must be corrected as rapidly as possible.

It seems clear that school decision-makers must actively seek out the weaknesses and failures, bring them into clear focus, and then move to make the changes that will produce far better outcomes.

The changes needed will not be small changes.

And they will not be rhetoric--fancy talk, pompous phrases, easy slogans and catchwords, empty cliches, or political promises.

They will have to be actual changes that work.

## HOW LARGE ARE THE MAIN LEARNING DEFICITS?

The following brief listing is offered with apologies. The intent is not to dwell on familiar shortcomings, but to win the reader's agreement that very large advances in student attainment are essential.

When we face the realities, which are well established by many forms of study and research, we see that gains of a few points in scores will not make any material difference. They may in fact hurt, by suggesting that "progress" is being achieved. The media tend to give far more stress to small changes in scores than good sense justifies. The public soon discovers that the windowdressing is indeed nothing substantial...and further loses confidence in educators and schools.

Language Use. Modern education rests heavily on the ability of the student to talk, write, listen, read and in general communicate. Most people regard this area as the most essential of all, with the widest applications in adult life. Student attainment typically is abysmally low, as dramatized by SAT scores obtained by students who are largely an elite group interested in higher education. SAT outcomes agree well with many other measures of language proficiency.

Indication: Instruction appears to be highly lacking in effectiveness. Conventional methods that obviously work poorly are kept in use.

Mathematics. Much evidence shows that after 8 or more years of instruction around 5 out of 6 students have failed to acquire even a minimum basic grasp of simple mathematics. Even such simple and useful concepts as percentage are not well understood. Ability to do problems is minimal.

Indication: Same as above.

Science and Technology. Critics consider this a "disaster area." In general, little time and effort is given to instruction; teachers often feel unqualified; instruction often teaches "about" the topics rather than providing learning experiences. Student interest declines typically year by year. (A few students, committed to science, do well.)

Indication: Same as above.

Social Studies. Even many specialists in this area of curriculum agree that programs are often confused, vague, and poorly integrated. The area becomes a grab-bag, with often little time devoted to sound learning. Observers remark great gaps in learning about American principles, history, geography, and understanding of current events and developments.

Indication: Same as above.

Other Areas of Study: Similar gross weaknesses in student achievement are frequently pointed out in

| | |
|---|---|
| Languages | Business |
| Health | Law, Legal System |
| Knowledge of Other Countries and People | Cultural Heritage and History |
| Information Retrieval | Human Relations |

In sum, almost any examination of what students learn shows that, beyond any reasonable doubt, the instruction carried on in most classrooms is ineffective to an appalling degree.

Were teaching effectiveness to be improved by 5%, 10%, or even 20%, the fundamental problem would remain. Gains of that size will not correct the huge deficiencies.

In one sense, this is an encouraging finding. It means that there is a large amount of room for improving student learning. That means that introducing substantially new approaches holds the potential for quantum jumps in student attainment.

> Instruction, we ought to bear in mind, may not only fail to produce student learning--it may also have negative effect and prevent learning.

We see this in "reading," where conventional efforts to teach reading as an isolated "skill," to be learned by use of phonics and many rules, consistently fails to produce many able readers. Given this defective foundation, students a few years later show a common inability to handle more than the simplest, most direct reading assignments. Their ability to write proves even weaker. Yet educators have clung to the methods that experience shows endlessly do not work, and probably do much active harm.

We see the same outcomes in mathematics, where students who have been taught to work algorithms (fixed procedures) commonly fail to understand what they are doing, and why, and so never develop a sense of mathematics. After a few years--as many observers and researchers have noted--these students become less and less able to cope with increasing demands. A great many adults suffer a lifelong reluctance or inability to deal with mathematics in any form, as one consequence.

If we can effect a shift from largely negative instruction which inhibits learning to fully positive instruction which helps learning to flourish, we can reasonably expect the gains to be large, even spectacular.

A considerable amount of evidence exists that students in general are able to make strikingly large learning gains under favorable circumstances. In the conventional classroom there usually is no expectation of such gains, and consequently little if any real effort to realize them.

> NOTE: The term "instruction" as used here does not refer only to the activities of teachers, but to the entire instructional setting, involving organization, scheduling and arrangements, curriculum and stated objectives, testing, and evaluation.
>
> Other sections of this Guide will make clearer and detail the points made in this introduction. The skeptical reader is respectfully invited to suspend judgment.

## "SCHOOL CHANGE" — WHAT IS AND WHAT ISN'T

Schools are under heavy criticism and even attack because they are working badly. We all know that. We would have a hard time finding anyone knowledgeable about our country's schools who will publicly claim they are doing a fine job.

Many educators have been "brought up" not to make negative remarks about schools--especially their schools. But we cannot afford to deceive ourselves. In every state capital, scores of people from governors on down are working on school change--and educators will be affected by what they order and legislate. Schools are not working nearly well enough, and they must change. If educators don't take the lead in effecting change, they will have to live with what is forced upon them.

Educators have much to gain by making changes that make schools work much better. There can be advantages in status, security, prestige, pay, working conditions--in addition to the satisfaction of seeing large numbers of students benefited.

But for school to work better, to produce much superior student attainment, real changes and significant changes must be actually effected.

This Guide suggests what "real change" means.

> Let's say your car is running badly. A mechanic does a little work on the carburetor, and the car purrs along beautifully. That isn't change; that's an adjustment.
>
> Since there is often fog where you live, you install an amber fog light on the front of your car. That isn't change; that's an addition.
>
> You have been buying fuel at one gas station, but now you decide to buy another brand. That isn't change; that's a shift.

We submit that school change is complex enough without confusing matters with trivialities. We can define meaningful change as:

1. Introducing an activity that was not being carried on previously.

2. Stopping an activity that was being carried on.

3. Effecting a substantive (actual) difference in how students, staff, and others in contact with the school behave and operate.

To determine whether real change is or will be achieved, we ask these three simple questions:

1. What new has been introduced (not words, rhetoric, new terminology, etc., but observable activity.)

2. What old has been dropped, stopped (again, observation will show that previous activity has been discontinued.)

3. What are people doing in the school that is substantially different?

SOME SCHOOL EXAMPLES

In elementary school A, the reading method from publisher X has been replaced by a method from publisher Y. This is a shift, not a change, because staff and students will still be doing very much what was being done before.

In high school B, the Science required for graduation has been ordered increased from one year to two. This is an addition, not a change. As yet, no change in activity has become visible. There are only some words on paper. Actual change has not taken place; and such change as may occur may or may not prove to be as intended.

In school system C, the reports required of principals once a month are now demanded every two weeks. This is an adjustment. It remains to be seen whether the principals behave in ways that substantially differ from before the order.

In school D, use of a publisher's method and basals has been terminated, and an experiential approach has been begun. Actual observation shows that teachers and students are now behaving and operating in quite different ways than before. This is a change.

In junior high school E, a Chemistry laboratory has been provided where none existed before. Students now spend many hours using the new facilities and equipment. What students and teachers do has sharply changed.

In school system F, principals are now required to submit a list of "hard" student learning objectives, and to report at regular periods on student attainment. Previously principals made no such specific or regular reports. Principals must now behave in a sharply different way--a true change.

In elementary school G, students previously sat at their assigned desks most of the day. Now the desks have been removed; students work at tables, on the floor, or wherever convenient; and move around freely as their needs and activities dictate. Teachers have greatly reduced disciplinary efforts previously needed to keep students at their desks and "paying attention." Obviously, this represents very substantial change.

The fact that a true change has been effected does not, of course, mean that the change will necessarily work well and bring about valuable gains.

But if we recognize that schools, now, are not working nearly well enough in producing student learning, we see that only true, substantive changes provide any hope of effecting meaningful corrections.

If we use a means, or test, for identifying true change, we can at least separate proposals that cannot possibly bring the needed advances from those that may.

Always, to be effective, we have to focus on the behavior of students. Unless that changes, no large gains in learning can occur. The behavior of staff often directly affects what students do and how they do it; but we cannot safely assume that changes in staff behavior will automatically produce changes in student behavior in the directions desired. (Behavior here means what people do, not compliance with "discipline.")

What students learn will always relate closely to what they do, what their experience is in the instructional situation.

## QUESTIONING THE STATUS QUO — ALL OF IT

Schools are institutions that typically have been very slow to change. The basic assumption almost always is that "we will do again what we did last year."

When school people are asked, "why are you doing this?" the usual answer is "we've always done this."

If schools were hugely successful, that would be a sensible kind of reply. One should be slow to monkey with success. But when the results have been inadequate, or downright bad, we have to ask, "why are you clinging to something that doesn't work?"

If schools are to survive and regain public confidence and good support, everybody involved in schools has to question the status quo--assume it is probably wrong, because results are poor.

That's a new role for most school people.

We cannot expect people to take up a new role unless we get them excited about the potentials, encourage them, show them how to do new things, give them a lot of support. That's a job for administrators, and to a degree, for the Board of Education.

Often, we find these people have a long tradition of being timid and defensive. They give out little information about their schools, especially if it is bad. They avoid negative comments. They "admit nothing." They give out optimistic views in their statement and speeches, and try to put a good face on everything. "People will not want to pay taxes if we criticize our schools." they say. "They will vote against in referendums."

People are not such fools. They want to see large improvements in their schools. When school leaders minimize weaknesses and failures, the public may conclude that these leaders don't really have much stomach for facing facts and effecting change.

They will lose confidence all the faster.

And everybody in the schools will try to keep on doing what they did last year.

## STOPPING CAN BE HARDER THAN STARTING

Not only in schools but in most organizations, it often proves harder to get people to stop, or drop, what they have been doing than it does to introduce something new. People tend to cling to old ideas and procedures--ways of behaving that have become "comfortable."

When we are seeking change, it can help to keep this in mind.

Starting something new has some excitement and challenge, as a rule. But just stopping something seems dull and unrewarding.

But if we are doing things that are wrong and harmful, or plain wasteful, stopping doing such things can be valuable.

Usually, people have to be pushed a bit (sometimes a lot) to stop.

BUSINESS EXAMPLE

> The Q company computerized its bookkeeping, putting in a whole new system. Months later, the Controller finds that the bookkeeping staff is still filing several kinds of paper records by hand in customer file folders, even though this information is now in the computer. He orders the filing to stop. But the staff feels uneasy, grumbles and does not comply, until the Controller repeats the orders, explains further, and has the files removed.

SCHOOL EXAMPLE

> In elementary school P, reading was for years not directly taught in kindergarten, but then gradually was introduced and given considerable stress. The staff had long given a readiness test at the end of each year, for the benefit of the First Grade teachers who would next have the students. But the staff continued to give these tests long after the reading instruction was begun--even though they could hardly not be aware that they had been teaching reading all year! When it was pointed out that the tests no longer made any sense, one teacher protested, "But we've always given these tests in May!"

One reason why teachers in particular find it difficult to stop certain behaviors goes far back. As children, they attended school--probably conventional schools. By the age of seven or sooner, they had learned to think of "school" as a place where teachers did certain things and displayed certain attitudes. Most of these youngsters never encountered any other kind of school, and were likely unaware that different schools existed, or indeed could exist.

When, as adults, they became teachers, it was with the expectation of taking on the teaching role they had observed for so many years. Studies suggest that their training in college has little effect on changing these expectations. The beginning teacher feels that the job is familiar, and that he or she knows what it is and "what teachers do."

A result is that efforts to persuade teachers to behave in other ways meets resistance. Teachers may feel that any new way or new approach "is not school." If called on to drop conventional activities or attitudes, they may feel that they are being kept from doing their job, or that power and authority are being taken from them.

Urging teachers to change what they do, while leaving them in the same classroom settings, is likely to prove a waste of effort. The isolation classrooms force on teachers compounds the problem.

Teachers will change behaviors far more readily in a new, changed setting. The more the new setting differs from the old, in scene, arrangements, materials, schedules, personnel, etc., the easier it can be to introduce new behaviors--especially if the new setting presents difficulties in continuing the old behavior.

## IS IT BETTER TO EFFECT CHANGES GRADUALLY?

Most people in schools seem to believe that the way to go at the process of changing is to try to do it bit by bit--to "evolve" from the status quo to something new. It appears "safer" to go slowly, taking one small step after another.

That may sound sensible, but experience shows it's plain wrong.

It's something like saying that if you are in New York and want to attend a conference in San Francisco, the best way would be to fly to Pittsburgh, then to Chicago, then to Denver, and so on. Obviously that is absurd. You would simply waste a lot of time and effort. If you know your destination is San Francisco, you want to get there the best way. If you don't know what your destination is, better stay put until you do!

Changes have to be thought out, studied, planned to considerable extent. In schools, where people are often naive about change, we often hear "let's try this and see what happens." That's a poor approach. True, even the best plans don't always work out as intended; but the chances of success can be greatly increased by being clear at the outset what goals are, and what to do.

When a large, well-planned change is proposed, people will often respond with enthusiasm. There is a sense of challenge, of excitement, and there should be a feeling of participating in a significant effort. But a series of small changes are likely to be perceived as nuisances. "How can we work when things are constantly being altered," staff may protest. Each change, even if small, calls for meetings, instructions, documents, new forms and materials, modified procedures and arrangements. Who wants that?

Worse, effort to change by small steps usually leads to "back-sliding." It's easy to slip back to what was being done before, to the old, familiar ways. That is especially likely to happen when there are other stresses or pressures. The change effort peters out; the full change never really is effected.

But isn't it riskier to try for big changes "at one leap"? In a way, yes. But there is a way to minimize risk while going "whole hog" for the change. That is to make the change fully, but on a small scale--the "pilot" approach.

## USING THE "PILOT PROJECT" TECHNIQUE

In many fields, the "pilot" approach has been used for many years as almost a standard way to make important changes, or test out innovations. But it has been used all too little in education.

Chemical engineers, for instance, proposing to build a large plant that will use a new or modified process, will likely first build a small-scale plant to test out the process in a realistic way. (Today, they may also simulate a variety of pilot plants on computers.) Only after it has been shown that the pilot plant "works" is the huge investment made in a full-scale plant. If "bugs" show up in the pilot plant, they can be corrected easily and at low cost, as a rule. If there are serious problems, it is clearly better to know about them early in the effort.

Two opposing rules apply to designing a pilot project:

1. To assure that the pilot will give correct answers, it must encompass all the proposed change. It must truly represent what the full-scale effort will involve.

2. To minimize risk and cost, the pilot effort should be no bigger than needed to achieve (1) above.

In short, the pilot effort must go "whole hog" so far as change is concerned, and embody all the change proposed, carried out in a thoroughgoing way; but it need be no bigger in scale than needed to yield reliable answers. That brings a major benefit: the number of people required, the space and resources needed, and the expense can be small and manageable, and the project can win authorization and implementation much more easily. A Board of Education that might boggle at a massive change may well accept a small pilot venture, especially if there are people ready and able to carry it out in a low-profile way.

Of course, since students will be involved, care must be taken to avoid charges that certain students are being used as guinea pigs in a reckless "experiment." The pilot project should have solid support from studies that show that there is a high or almost certain probability that results will be favorable, or that at very worst no significant harm will be done to students. If some parents (normally very few) express such a worry, the pilot program can be offered as an option. Parents can elect not to have the student in the pilot program.

## TWO SCHOOL EXAMPLES

Lakeside School System has been considering adopting a method for teaching Algebra that differs sharply from the program long used. It has had some trials elsewhere, with good results claimed. Some Lakeside people think they can further improve the new program, and urge it be adopted for the two high schools and junior high use. Some of the math staff are dubious, however, and others don't show much interest, claiming to be busy in other directions.

The Superintendent elects to use a pilot approach, with only three staff members, who like the new program, to be involved, in one school, trying it with about 75 students. This is easily arranged, with little opposition. Care is taken to assure that these teachers thoroughly understand the project, have the materials needed, and that the new program will be fully instituted in place of the old. Also, provisions are made for documenting the progress of putting in the method, and frequent monitoring of its progress and effect. The Board of Education readily approves the small-scale trial. A few parents ask questions, and are assured that planning has been thorough. At the appointed time, the new program begins operating, smoothly. Checks are made by supervisors to see that the new approach is being fully used, so that results can be compared, and nobody will claim later that much of the old methods were still used, or that the new program wasn't really given a fair trial.

After a time, results are evaluated, and a decision can be made that rests on some actual experience. If it is decided to use the new program more widely, there are now at least two teachers who can help others with it. The risk taken has been small--it seemed likely that at worst the results would be about as good as the old methods long in use.

Sundale School learns about a team-teaching approach that seems to have the potential of sharply increasing student learning. Several staff members think it exciting and are willing to participate. A suitable open area can be set up readily, and a consultant experienced in the team technique is available to advise. The Principal favors the trial and is able to get higher approval if only 100 students or so will be affected.

After study and preparation, the program is explained to parents, and offered as an option. Around 90 accept for their children, and the program begins on a pilot basis.

The advantages of the pilot program technique for change can be seen in these examples:

1. It can be easy to find people to staff the effort, with no need to pressure anyone to get into a program they mistrust.

2. The people involved can more readily study what they propose to do, and are motivated to do so.

3. The physical arrangements and materials and equipment can usually be obtained, even when budgets are tight, because the scale is small. Much that is needed may be available somewhere in the school or system.

4. A single consultant or resource person can help those in the pilot program to get started, and can provide help with any problem that may arise. This makes the participating staff feel more secure.

5. The whole effort can be introduced quietly, informing the parents of the few students involved, without having to risk wide public debate and the outcry of those who don't get informed, misunderstand, and create confusion. "Keeping a low profile" is practical and helpful, at least until there are outcomes to talk about.

6. Because it is small, the project can be more easily monitored, and documented so that it can be expanded or replicated if successful.

7. Administration can support and encourage the few staff members doing the project far more readily than if many must be dealt with.

8. It is simpler to establish that the proposed program was in reality instituted and carried out--that the program was given a fair and full trial, and results reflect actuality, not just words on paper. (In larger programs, some of the participants may give lip service to the new program, but continue to use old practices--making outcomes hard to determine.)

9. Pilot programs can often be offered to parents as an option, which will be refused by those parents who might be opposed for some reason.

10. The pilot program creates staff people who can become "experts" to help broaden a successful effort.

## HOW DOES THE PILOT PROGRAM COMPARE FOR SPEED?

At first glance, the pilot approach looks slow. If a school or system wants to see wide improvement made quickly, there may be a lack of enthusiam for a small project begun with only a few students. It can seem faster to "order" improvement by making changes such as "raising standards," "increasing accountability," demanding that students pass "gate" tests, take more courses, and so on. Such moves, well publicized, may meet some political needs for the moment--but we know that they have generally failed over many years to have any real effect. They usually do not deal with student learning in any constructive way. One cannot order students to do better--they need instruction that works.

Great plans for school improvement often take a year or even two just to get formulated, approved, and announced. Then the plans for implementing them have to be made, which can take another year. Often the plans prove impractical, and more months pass as they are revised, and at last ordered into effect. Another year passes before results can be read--and they may turn out to be less than hoped, unclear, or mixed. Some of the orders by now will be seen to be unworkable or counter-productive, and time will go to revisions. Finally, the whole program bogs down as resistance builds, results turn out to be poor or trivial, and political interest turns elsewhere. Four or five years may go down the drain as another "order better outcomes" effort flops like so many before it.

In contrast, a well-designed pilot program can be put into effect quickly and produce meaningful results within a school year. There is then hard knowledge and experience that can be used on a wide scale. If the pilot program proves unsuccessful, that fact becomes evident quickly and the program can be dropped or revised quite quickly.

All in all, the pilot approach likely will accomplish more, and in less time. But often an either/or choice need not be made. Even while a political, "grand plan" effort is being made, some pilot programs can be quietly run, too!

## CHANGE MEANS CHANGING WHAT *PEOPLE* DO

Schools have been and likely will continue to be "labor intensive" operations where people rather than machines do the great bulk of the work. In addition, the work is with students, who happen to be people--a fact that sometimes seems to be forgotten. Parents and public also are critically involved at times.

When grand plans for school reform are put forward, we can well be suspicious if they appear to give little attention to the "people aspects." Ordering people to do this or that, or cease doing something, looks easy, but we know all too well that the people concerned may not do what the orders call for. They may resist, or they may execute poorly, or they may not know how to comply, or they may get disgusted and withdraw by retiring or resigning, or in the case of students, dropping out.

As many observers have pointed out, schools are also social systems, frequently more so than are most offices, shops, or laboratories. People within a social system feel constrained to behave in certain ways and not others. There can be pressure to conform. It is not uncommon for teachers who depart from the norms of the conventional school to be ostracized by their peers, as though trying some new ways were a crime. With our standard structure of graded classrooms, a truly successful teacher may be seen as an irritant and even menace.

SCHOOL EXAMPLE

> Mrs. Q. has outstanding ability to bring about excellent student learning in her third grade classroom. Her students get a solid foundation and so tend to make rapid gains in language use and mathematics, and other subjects. Mrs. Q., however, refuses to hold back learning, and as a result she sends students to fourth grade teachers already able to do fourth and even fifth grade work. The fourth grade teachers become angry--what are they to do with these advanced students? The Principal gets complaints about Mrs. Q. She keeps "upsetting the system" by letting students learn too fast and too well. The system is not designed to move all learners ahead as fast as they can readily go; rather, there is a tacit understanding that students should be kept within grade limits.

To be successful and productive, changes intended to raise the performance of the school and the learning of students must be

made to mesh with the social system. Otherwise, even if they do get introduced, they likely will not survive, because the various people involved--staff, board, students, parents, public--can bring progress to a standstill, sabotage (deliberately or in effect), make half-hearted or "fuzzy" implementations, or even rebel in some way that causes serious disruptions. When strong supporters of a program leave, the program may be quietly "buried" by those who remain. Where a union has a role, its leaders (who also change) may have special points of view and motivations. The union may support and encourage change, or be cooperative in working it out, or may use change as a means of quarreling with administration when relations are poor.

Genuine school change very likely will create need to shift some people, add to or reduce a group, retrain, give some people more authority or pay, or otherwise make new arrangements.

Getting change into use demands careful attention to the social system and the concerns and feelings of the people affected. We need to see this "people" aspect of change as an inescapable part of the problems of bringing about change. Of course, it is often true that the existing social system may be a lot less than perfect--low morale and a sense of "burnout" is all too common, for example. Making changes may well benefit everybody. Not making changes in the social system may lead to worse conditions.

Change has two faces. On one hand, people may find the prospect alarming, intrusive, demanding or worrisome. On the other, some individuals may find change exciting, challenging, full of new opportunities. People will react differently over a wide range:

a. ...in ways that reflect their personal situation, workload, immediate and longterm aims, self-confidence, working relationships, and mood;

b. ...according to how the proposal and plan for change is presented to them, and the provisions for seeing them as individuals and contributing participants.

Much has been learned about how best to deal with people to get them to change effectively. Most of this knowledge and experience has come from outside education, but can be applied within schools if properly interpreted.

## SCHOOL AUTHORITY IS OFTEN LIMITED

For anyone holding a "position of authority," a realistic idea of how much authority is actually possessed can be most helpful. Trying to use authority one doesn't have can produce some painful and embarrassing outcomes.

Accuracy regarding authority can be particularly important when school change is planned and attempted. Much of the "wheel-spinning" we commonly see results from bad estimates of what power can be applied.

In the nature of schools and school systems, they are "loose-coupled," as analysts of organization put it. First, there are many levels: students, teachers, building administrators, central office, superintendent, board of education, state and federal offices--and some in-between the layers. Parents, public, press, local "power people" such the heads of organizations, and some business, financial, and political people all may get into the act, at times importantly. Over all this lies a thick layer of complex bureaucracy, composed of laws, regulations, established practices, court orders, tacit agreements among various elements, and community viewpoints few are eager to challenge.

Second, the system is physically diffuse. Offices and schools are scattered. Buses bring students long distances. Even within a school, activities go on in separate classrooms and other areas, with often little interfacing or contact. Principals may have difficulty even making contact with teachers; students are frequently "pulled out" of classrooms for various purposes; by no means it is easy to reach parents, some of whom will make no move to cooperate.

Third, basic information often is lacking or hard to assemble. Unlike a business enterprise of equal size, which ordinarily would have reliable, immediate information on sales, payments, inventory, payroll, etc., school statistics are more likely to be inaccurate, confused, late, and not available for use. The key information on what students learned may be the least obtainable. Schools do little cost accounting, and seldom know the real cost of various activities.

For these and other reasons, management is fundamentally in a weak position, relative to most enterprises. The principal of a

school may have only a small (sometimes no) role in selecting teachers to hire, and may be unable to fire a teacher or other employee who is considered grossly unsatisfactory, without going through a long and difficult procedure. An experienced teacher who has standing in the community may be able to defy the local or even central administration because the resulting conflict would be too disturbing. Union rules and legal decisions in court cases may further restrict administrative actions.

"Slippage" occurs between the bureaucratic levels. The board gives policy orders to the superintendent, who interprets the intent or instructions and sends them out to principals who do further translating, and they then go to teachers who see some of the provisions as not feasible, and so don't comply. Or it may be that so much paperwork is called for that the plan bogs down. The effort to get the paperwork done becomes simply too wearing. Gradually it is "kicked under the rug." Slippage is hardly unknown in business and other nonschool organizations, but in the loose-coupled school atmosphere slippage can offset efforts to apply authority with deadly effect.

All this means that efforts to bring about school change by the issuing of orders at some level are likely to have little effect, and still less lasting effect. The authority to produce change that way is lacking, and the whole structure--as well as the traditional social system--blunts, diffuses, and weakens the thrust. A drive to tighten authority and make people comply is about equivalent to a declaration of war.

Boards of education and state officials, especially legislators, often do not understand the limits to their authority in reality, and may think that ordering some change will produce it. Months or years may pass before they discover that the change did not really occur as intended.

Experienced and skilful administrators know that they have to deal with the system as it exists, and that any plan that may be put forward has to be translated into what can realistically be accomplished. Authority can be applied only gently and tactfully and with some patience and persistence. There are techniques that will work much better than some other techniques.

## SCHOOL CHANGE REQUIRES A MASTER PLAN

It may be possible to make a useful change effort by "just going by feel," but if so, that's the hard way.

Much more likely, effort will get dissipated and little will be accomplished that's worth while.

It's also possible, of course, to make a plan that is so tight and specific that it breaks down quickly as people have to fight it to get anything done at all. Our ability to foresee the future is exceedingly limited. "Plan" means future, and therefore any plan should leave room for adjusting as it goes along.

The best kind of plan is "projective." It shows where you want to go, in terms of fairly concrete goals that are not rhetoric, but somehow measurable or observable. "We want to have better teaching" is rhetoric, because it's vague. Better teaching is not really a goal, but a means. Student learning is a goal, and by far the biggest, and it can be measured to a degree (for one way, by counting "failures") and by suitable tests (hard to find, but not totally lacking.) "Better discipline" can be reduced to a non-rhetorical goal by looking at attendance figures (real, not faked), number of students sent to the office, number of disciplinary actions teachers take per hour, as observed, and similar data. Goals made in this way should indicate at the beginning what the aim is: a modest gain, a huge gain; an improvement or a quantum jump.

Such a plan "projects" what will happen, in terms specific enough to be useful, but with room allowed for deviations. When a plan of this nature is adopted, it gives everybody a sense of "here's where we're going."

Part of the projective concept is to set in advance "observation points," at which you are going to look, in a hardnosed way, at how well the plan is progressing. A good plan will help you see quickly and plainly how things are going, in time to make changes in the plan, review why progress is slow, or substitute some better way to proceed. It is essential all agree, "this is not working as we hoped--let's fix it." Some efforts may well take longer to achieve progress than expected. That's ok, so long as a check indicates that the effort is on the right path. How fast people will move to effect change seldom can be predicted well.

Another type of plan--a kind we see all too often--is not really a plan at all in the projective sense, but merely a calendar or schedule that proclaims, or orders, when certain steps shall be taken. "By May of next year," such a plan may state, "reading scores will be 15% higher." Or, "beginning next fall, students will require three math courses to graduate."

The efforts to bring about change by fiat seldom work very well, if at all. First, they are simplistic, not well suited to the real, complex world of the schools. Second, they often don't address the true problems. Why are reading scores to be raised? Because they are too low. Why are they low? There can be dozens of reasons, including the use of instructional methods that tend to prevent good reading. Ordering what to do before there is reliable knowledge of conditions and problems usually turns out to be simply foolish. Third, "banging on the table" and insisting that other people accomplish certain arbitrary aims usually gets people angry and frustrated, and tempts them to somehow "escape" the situation, or cheat and fake, or to do little and wait to see what happens.

Another approach, often used by executives in business, is to get subordinates to set goals they think they can achieve, and then let them go at it. But this calls for letting people decide how they are going to get the results wanted, and for giving them to reasonable degree what they need. It can be effective--with one big "if." The people given the challenge must be competent to meet it. They must know, or be able to find out, what to do that will work. In business, those who fail can be replaced; in schools that is not so simple. If they don't really know how to get the results wanted, no amount of ordering or threatening will enable them to. Demanding gains may push them to try some new methods, but these may be no better, or possibly worse.

Ordering people and threatening them is seldom a good way to get them to perform better. A good plan gets people "into the boat," makes them feel "this is our plan." It encourages them to study and think and consider alternatives.

Some plans, of course, are political. They permit splendid and praiseworthy goals to be announced, so that parents and public and critics can be soothed with promises. They may serve to take off the "heat," but solve no problems and perhaps make them worse.

## *SUMMING UP THE KEY IDEAS*

1. The core of present school problems plainly is the generally poor quality and amount of student learning. Using our new understandings of what learning is and how to bring it about, great gains can be made.

2. Educators must face the realities, not avoid them, if schools are to be moved forward substantially. That means focusing on weaknesses and failures and doing something about them.

3. Learning deficits are huge and many. Gains of 5%, 10%, or even 20% will hardly be significant. Far larger "quantum jumps" are needed to bring public schools to an adequate level.

4. "School change" is not a meaningful term unless it is used to signify bringing about a substantive, actual difference in how school people behave and operate, introducing new activity and stopping some old activities.

5. The status quo in education must be thoroughly questioned--all of it. "We've always done this" is not an acceptable reason.

6. Stopping long-used and familiar practices can be harder than introducing new ideas and behaviors.

7. Gradual change can be harder than bolder, more rapid change, and not less risky. It can be received badly by people, who become annoyed rather than enthused.

8. The pilot project approach has many advantages.

9. The pilot project technique may appear slow but in use may bring results faster and more surely.

10. Change means changing what people do. Change efforts must pay heed to how people will respond, and to the social system that prevails within schools and school systems.

11. School authority, at all levels, may in actuality be much less than appears on the surface or is assumed, in part because schools are "loose-coupled organizations. Efforts to use authority that is not really there brings troubles.

12. Bringing about school change requires a master plan which preferably should be "projective" in nature. Plans which "order" people or threaten them are unlikely to obtain real results but may serve temporary political needs.

## A NOTE ON POTENTIALS

We have all seen pictures of people in developing countries at work on some large construction project. They use shovels and pickaxes, and move earth by carrying it in little baskets on their heads. With an enormous amount of labor and time, the job gets done.

Most of these workers have probably never seen a power backhoe or bulldozer. They simply have no notion of how much earth can be moved in a day if quite different methods and equipment are used.

An analogy may be drawn for school change. Most of the people who may be involved have never really seen any major change brought about. The naturally think in terms of their own experience and the results they have seen. They simply have no idea of what can be done when other approaches are used--for example, working in a much different kind of setting and organization.

We can hardly blame them for not readily believing that great gains in student attainment are feasible. Even when they actually see an example in operation, they may have difficulty comprehending all that they see, and imagining themselves using these methods.

One element to be emphasized is the "push-pull" effect. If methods of instruction and control are in use that inhibit good learning, stopping their use can produce a large gain. If then methods that do help students learn are substituted, the combined push-pull gain can be striking.

Much scattered evidence suggests that gains in student learning can potentially be many times higher than ordinarily aimed for.

But such gains will not be obtained in the schools as they are. Much major push-pull change will be required.

# THE RHETORIC VOCABULARY OF SCHOOL CHANGE

This section provides a quick review of some of the words and terms frequently used in proposals and discussions. The review may seem, perhaps, on the cynical side, because much of this vocabulary is employed for political purposes--to make a good impression (it is hoped) by appearing to be on the side of the angels. But the intent here is to take a brief, hard look at this language, with clarity of meaning and realism in mind. To make real changes that will be significant, we need to challenge, or at least be suspicious of, vague, high-sounding rhetoric.

"NEW"

The word is frequently attached to proposals and plans; but on study we usually find little or nothing genuinely new. On the contrary, the ideas and initiatives may prove to embody ideas and assumptions that are old and have been tried again and again with bad results. Yet "new" is important; if a plan does not contain major new aspects, we know it will fail. It can be wise to ask "just what is new?"

"EXCELLENCE"

This is one of those lovely words that sound so good. Unfortunately, it often is abused. Excellence is not sought, but only some movement toward excellence--a very different aim. If our schools are in sad shape and grossly inadequate in outcomes, as reports agree, then we need very large advances to get to excellence. If we really seek and want excellence, we cannot accept small gains, a bit this year and a bit next. We might better call that plan "creeping mediocrity."

"EFFECTIVE"

Here we have another golden public relations word, very close to meaningless. Much has been put forward about "effective schools" which we should study and emulate. The problem arises that the definition is vague. Schools or systems that have been near collapse but have recovered to be only weak or average are put forward as examples of "effectiveness" at work. One group that has spearheaded the "effective schools" rhetoric lists some of the characteristics of effective schools, but these too are given in vague terms, and no evidence is offered that they are causal and not merely superficial results of other factors. The word "effective" can be seen as a warning of rhetoric to follow.

"RAISE STANDARDS"

Who would dare come forward and oppose "raising standards," a phrase as noble as apple pie, baseball, and Santa Claus? But we find little enthusiasm for ferreting out just what is meant and what the consequences might be. If we demand, for instance, that an exam be made harder, more students will fail it. Is that what we want? What will we do with those who fail? If we add to requirements for graduation from high school, what will that achieve? If we make academic students take more years of math, or science, or languages, which does not at all guarantee that they will learn more, where does that get us? If it discourages many students, and leads to more dropouts, are we ahead? The only standard that really counts is greatly improved student learning, which by no means is obtained automatically by raising standards.

"IMPROVE DISCIPLINE"

The public is apt to nod agreement--adults generally want the young to be better behaved, especially if somebody else will do the job. "Discipline" is also used as a code word to mean "keep those poor or minority kids in line," thus expressing prejudice and perhaps bigotry. As students over the years have become less compliant, teachers and administrators seem to have turned more to wishful thinking and yearning for the old days (often recollected less than accurately), and so much in favor of "more discipline." But evidence strongly suggests, first, that the schools themselves cause behavior problems by allowing punitive approaches to dominate, by boring youngsters (as every study of actual schools reveals), and by preventing learning by the use of methods long known not to work, as in math, reading, and science. Much experience shows that where learning is strong, discipline virtually ceases to be a large concern.

"TIME ON TASK"

Massive, expensive research has appeared seeking to relate how students spend time in class to their learning outcomes. Few educators have read the original research, which had findings far removed from the published news reports. Obviously, if students take tests on material they have never even been exposed to they will likely do less well than if they had been exposed. But the findings were very weak and related only to "tasks," not true learning; and the influence of the time-on-task factors was found to be somewhere between 1% and 10%--in short, trivial!

"BASIC SKILLS"

The concept is widely accepted, that certain abilities related to schooling are essential for everyone. Difficulty comes in when we come to the teaching: it turns out that schools seem to do their poorest instructional work in the basic skills areas. Though they give heavy emphasis to reading and language use, and to math, and give a great proportion of class time, the results are miserable, and have stayed miserable for years with declines much more common than gains. Despite the record, school people tend to cling to the methods long demonstrated not to work well. (The "skills" concept seems part of the problem--basic abilities appears a much better term.) These can be taught by schools with high success, but not by using conventional methods in conventional classrooms. Demands for improvement in basic skills all too seldom include calls for stopping the use of failure methods and using new approaches.

"MORE HOMEWORK"

Assigning homework is often seen as one more way of punishing children and keeping them subdued. For many parents it also recalls their school days, nostalgically viewed. "Homework," however, can mean anything from filling in worksheets to doing research for a project of high interest. What kind of homework makes a great deal of difference, if one is interested in real learning rather than punishing the young. Teachers often fail to enthuse about routine homework of the old kind because (1) they are supposed to correct it, (2) it often reveals how poor the classroom learning was, (3) assigning it is a chore, especially if there is to be any attempt at individualizing, (4) if students resist or rebel on homework teachers have an issue they may prefer not to have to face. Advocacy of more homework as an aspect of school change is usually superficial.

"NO SOCIAL PROMOTION"

If students each year are moved up to the next grade without regard to what they have achieved, this "social promotion" will produce a school in which many in the higher grades will be far behind where they should be, and unable to deal with the demands the school makes on them. True; this is what we see. It sounds sensible to set "gates" at various levels, and say that students who can't pass the gating tests cannot move forward. But what is to done with those who can't pass the gates? Again, we come back to the fundamental problem: children who do not learn well enough. "Remedial work" is the usual remedy, but most remedial efforts use the same teaching methods that failed in the first place,

used more intensively--with the result that they fail even more. Commonly, we find remedial programs to be the most expensive and least effective of all. Some school systems that have tried the gate idea have found the failures backing up intolerably. Also, when the gate tests become that important, teachers feel forced to give much more time to getting students through the gates, and so neglect others. It seems apparent that to achieve the outcomes wanted, we should ask not for "no social promotions" but for far better continuous monitoring of student progress, throughout the year, and a change from instruction that does not work to instruction that does. Today, we do know far better how to bring about learning--but the new knowledge is not being widely used as yet.

"ACCOUNTABILITY"/"GET TOUGH"

These and similar terms convey a good deal of threat, however they may be presented. Most people respond negatively to threat. Rather than being "inspired" to do better, they look for ways to cheat, fake, or make excuses. Feeling attacked, they justify fighting back in some way--usually not openly. If they feel that their jobs are at risk, they go even further in "defense." In school systems, loosely coupled and complex, accountability can be hard to fix. If one is dealing with bricklayers, the number of bricks put in place can be counted, and the employer may be prepared to dismiss and hire anew. But pinning down what this popular term means in a school context can be difficult. Most likely the bricklayer knows how to lay bricks and has the supplies and equipment needed; but the school persons, and students, may not know <u>how</u> to achieve what is demanded, nor have suitable situations, nor can results be measured reliably. In any system, school or other, there is usually some room for tightening up operations and having better data and controls. But since schools typically have much more failure than success, there may be little real desire to know all the bad news. "Accountability" and calls for "toughness" serve better in political and public relations rhetoric than in working out real, practical solutions.

# CHANGING SCHOOLS TO OBTAIN BETTER LEARNING

If our schools were turning out students with learning overall three times what is now achieved (to put up some sort of goal for the moment), the schools would be flourishing, reports would praise them, and public support would be vigorous. The overwhelming problem the schools have is that learning outcomes are seen by many thoughtful critics as miserable and far from adequate to the needs of graduates, employers, community, and nation. Students, except for perhaps 15%, have exceedingly weak command of the "basics," great holes in general knowledge and understanding of the modern world and how it works, and almost absolute blanks in vital areas--citizenship for one.

Put the reverse way, if student attendance, discipline, and application were perfect, but learning outcomes were not much better, we would still have a disaster. What students learn (not what they "take") is what matters--and the learning must not be "65%=pass" but solid and substantial, evidenced by ability to perform, to do, in a real-life setting.

We have reason today to believe that far better learning can be obtained--but not in schools as they are. To change the outcome we have to change the schools. This Guide submits that change that is not plainly directed to that end is of dubious value.

We should not confuse teaching and learning, nor regard them as opposite sides of the same coin. Obviously, what is taught is not necessarily learned; and what is learned may have little relation to what was taught. To look at learning we have to look at learning, directly.

Curiously, although learning would seem so plainly to be what schools are for, primarily, learning gets little mention amid the flood of rhetoric, plans, proposals and philosophy we now have to cope with. Almost nobody talks about learning--for some reasons that seem worth examining.

## NOBODY LOVES, OR ENJOYS, FAILURE

In the nature of human nature, failure is hard to tolerate. If we have a job, we have to believe that we are doing it reasonably well--or feel compelled to find some other employment. To be aware of constant failure is to suffer.

In classrooms, failure occurs constantly. The teacher presents a unit, perhaps thinking it well prepared and skilfully presented. But then a test reveals that about a third of the class seems to have grasped the main ideas, another third has some muddled or partial understanding, and the other third shows little sign of having even heard the lessons. It also may be that of the third that did best, half or more could have passed the test if it had been given before the lessons.

This is simply too much failure to bear. Some teachers quit to find other work; but many need their employment and have small prospects of being able to find other work they would like. They would like to remain teachers. The solution, then, is to distort the situation, as they perceive it, so that it becomes somewhat more acceptable. Teachers commonly do this in two ways: (1) by convincing themselves that the poor learning results are normal and to be expected--therefore the teacher has not failed, but has done about as well as other teachers; and (2) focusing on factors other than learning, such as having a pleasant time and maintaining a warm and loving atmosphere. A third way, sad to say, also shows up: (3) blaming the students, as too dumb, from "hopeless" family backgrounds, unmotivated, unprepared by earlier teachers, incapacitated by problems (such as divorce) outside the school, or as members of some ethnic, racial or economic groups considered inferior and stupid.

In effect, harsh as it may seem to state it bluntly, a great many classroom teachers turn away from trying to produce learning, and avoid activities that tend to reveal that learning has not been achieved. Their aim is "to get through the day" with as little unpleasantness and conflict as practical.

Teachers, of course, avoid facing up to what they are doing. As one hardbitten principal put it, "teaching is the art of self-deception." Some critics consider classroom teaching the world's worst job, impossible to execute well as a rule. To survive, the hapless teacher has to avoid the painful facts. When self-deception runs thin, we get "teacher burnout."

## A NO-WIN, UBIQUITOUS SITUATION

The gloomy view expressed on the preceding page may elicit howls of rage or protest. Such remarks can seldom be expressed to an audience without producing an uproar. But this Guide perforce must be blunt and realistic--we cannot hope to fix what is not working (as now practically everyone agrees) if we are going to shy away from the worst aspects. Presumably, this Guide has a special audience, under some pressure to be realistic.

The fact is that interviews with teachers typically show them not to be overly concerned with learning. Many say so, without apology. They see their job as being to carry on "good teaching" and "proper classroom management" and maintaining tolerable relations with students. When forced to attend to learning, as by "minimum competency" or "exit" tests, they feel very unhappy and under exceptional pressure. Most significant, perhaps, is the readiness with which teachers everywhere accept the failure and poor performance of many students as normal and natural, and fully expected. Indeed, there is much evidence that many teachers early in the term "write off" those students seen as unpromising. Thereafter they get little attention, less input, and very little challenge or stimulation. These "losers" are <u>expected</u> to fail.

If a visitor to schools asks the principal to suggest some of the "best teachers" whose classrooms should be visited, the list that results normally includes teachers who are well dressed, smooth spoken, and in control of their students--<u>not</u> those teachers who produce the best student learning. In fact, if one asks which teachers obtain the best learning gains, the school is unlikely to have any facts or figures. Even the number of declared failures may not be known and may not be reported to higher levels. Boards of education seldom know failure figures, or inquire.

One learns that in schools "learning" is a kind of dirty word. One is wise not to bring up the subject except in vague, wishful, or rhetorical terms.

But today schools <u>can</u> produce learning, well and reliably.

## IS LEARNING REALLY WANTED?

It is easy to assume that everybody wants to see student learning greatly improved, but that proposition needs to be examined.

First, as many observers have noted, we are in an age when much stress is put on credentials. The concerned parent is more likely to ask the returning student not "what did you learn" but rather "what marks did you get?" Test and examination grades are seen as of high importance. Children soon learn that parents are pleased by these kinds of scores, and in the earliest grades sense that credentials count above all. Teachers often report that before long students resist instruction intended to add to insight and understanding--they may literally say "please, just tell us the right answer so we can do well on the test." In the later grades, college admission becomes a concern, and parents may pressure their children heavily to get high grades so they can win admission to a favored college (where, with luck, they will "meet the right people" and obtain a diploma that will impress employers.) It is no secret that high school students may select less demanding courses in order to get higher grades.

Second, most schools operate on the graded classroom plan. Each classroom teacher is supposed to move along a varied group of 25 or so students so that not too many fall behind, and the others stay within the allotted range. Only limited learning is wanted for the more able students who might, if allowed, run ahead in one or more subjects. By various means, they are discouraged or distracted. Gifted and Talented programs often serve mainly to relieve pressures on classroom teachers who feel threatened and bothered by the learner who can go much faster than the average. The classroom has been designed for mediocrity. In addition, it is a school sin to let students get into the work of higher grades, since this will upset the teachers who get these students later.

To aver that the school strives for "excellence" but uses the graded classroom system is to state a direct contradiction. To say "we need better teaching" is insincere if there is no willingness to "take the brakes off learning" by changing away from graded classrooms.

## ENTER THE BRAIN, AND A NEW AGE OF EDUCATION

We no longer have to repeat the past, going round and round in the same old failure circles. A new door has opened.

For the first time ever, highly valuable and useful knowledge of the human brain is available, in a form educators can use. The consequences can be tremendous.

Go back in human history a bit, to the time not so long ago when even the best medical men had no idea what caused most diseases. Then the existence of forms of life too small to be seen with the naked eye was discovered, as microscopes were developed. In time scientists learned that diseases were caused by these tiny parasites, bacteria, or viruses. This was astonishing and at first incredible; but a new door opened for medicine, bringing tremendous advances in health care.

The new understandings of the human brain promise to have this kind of result in education, because the brain is clearly "the organ for learning." For practical purposes, all learning takes place in the brain, and nowhere else. If we are going to grasp why and how learning comes about, we must focus on the brain --or stumble around in the dark.

The human brain (millions of times more complicated than the rat's brain) is the most complex, intricate apparatus we know of in the universe. It will hold many mysteries, for many years. But for educational purposes, we need to understand not details but the main features: what the brain is for, how it evolved, the major aspects of its architecture, and in a broad way how it operates. We can draw from many scientific fields, not only the neurosciences, to build a solid understanding for educational purposes. This work has been done (some of it by the author of this Guide), and the information is available in plain English in many books and articles.

There are still many school people who have yet to discover this exciting, extremely valuable new knowledge. Only a handful of colleges and universities offer courses in this area as yet--though it seems safe to predict that before many years anyone going into education will begin with study of the brain. But interest in the brain is growing rapidly. ASCD, NASSP, AASA are among the leading organizations that recognize and promote this revolutionary new resource for educators.

## THE IDEA OF "BRAIN-COMPATIBLE"

If you were called on to help design a hand-held tool, you would hardly need anyone to tell you that the tool had to be "compatible" with the human hand. A tool that was far too large or too small, that was hard to hold, or that called for six fingers and two thumbs would be ridiculous.

You could readily see whether the tool would be hand-compatible, because you are familiar with the pattern of the human hand. Hands differ by size, shape, strength, etc.; no two people's are quite alike. But normally all have a similar pattern that enables us to identify a human hand at a glance.

In just this way, no two human brains are alike, but they do have a common pattern. The brain is not "a bowl of Jello," but rather an extremely complicated structure, reflecting evolution over millions of years. Like the hand, it does some things with ease and other things with difficulty, much as your fingers can bend forward but not backward. The brain is not at all a mere general-purpose apparatus, but a mass of specialized structures that work as they have been "designed" to work.

Only in recent years has the pattern or "shape" of the brain been at all well understood. Today, however, we have a very good idea of how, in general, it is organized. We know what it does with ease, and what it resists or does badly. So today we can design education to fit the brain, to be "brain-compatible."

This obviously is a new, startling, tremendously important idea. For centuries, up to just the last few years, educators had to work without any such understanding of the brain. That was like being asked to design a hand tool without ever knowing what a hand looked like.

The whole concept of "designing instruction to fit the brain" is new. It gives us the opportunity to make huge advances, by applying our new knowledge of "the organ for learning."

It does not seem too much to say that this has brought education into a new era.

## BEWARE THE CLUTTER OF MISLEADING IDEAS

Naturally, this great development has not been a secret. Many people have "got into the act," some with care and some hastily trying to get on a band wagon. This has cluttered up the "brain" trend, and led to a number of ideas being popularized and a lot of shallow, or wrong, notions.

This sort of thing always happens when an exciting new field opens up.

To stay on a solid, scientifically supported path, we should first note that what counts for educators is not details or a few simplistic facts that come from the neurosciences. There is virtually no direct connection between the marvelous, technical research that has been done in laboratories on the brain, and educational applications.

The new theory that is valuable and immediately useful to educators derives from the neurosciences plus newer findings in such disciplines as anthropology, brain evolution, information-processing and cognitive studies, computer science, and other relevant fields, as well as from educational experience. The direct brain knowledge that is useful does not require getting into technical detail (some of which you may find fascinating if you care to get into it.) The theory that has been developed* is not hard to grasp, but may at first seem strange, startling, and contrary to much that has been widely believed. Most of us have long been exposed to behaviorist psychology, which for many years (almost a century) deliberately avoided considering the brain. It is often called "rat psychology" because so much of the experimenting was done with small animals, and very little with humans. Educators have long complained that this psychology proved of little use in schools. We can now see why.

*NOTE: The theory dealt with here is known as Proster Theory. (Proster is a word derived from "program structure.") The theory, developed by Leslie A. Hart, has been published in books and articles (see Guide to Reading) and is now widely known. It has been favorably viewed by some of the world's leading brain scientists, as well as prominent educators.

## TAKING THEORY SERIOUSLY

Among educators in or concerned with the public schools, "theory" has long been a word to scoff at. Theory is seen as meaning a vague or dreamlike concept, dubious or unproved, or as the antonym of "practical, realistic." This is hardly what dictionaries say: "Systematically organized knowledge applicable in a relatively wide variety of circumstances..."

It can be useful to recall that during World War II Einstein wrote President Roosevelt to say that theoretically the atom bomb could be built. The warning was taken seriously, and billions of dollars were poured into our effort to create this weapon before the enemy did. No such bomb had ever been made; but the theory was correct is predicting that it could be.

Apart from education, most modern activities rely heavily on theory, and as the famous remark says, "There is nothing as practical as a good theory." We can build and use computers, for instance, or conduct programs in outer space, only because there is solid theory underlying all efforts.

Educators can be forgiven their distrust of theory, for perhaps two good reasons. First, few educators have ever been exposed to solidly developed and supported theory, and on the contrary have had to suffer the feeble, fragmentary offerings of "Ed Psych." Second, rather few educators have substantial background in science, which ordinarily produces respect for theory as indispensable. (Theory, of course, can be utilized in any field, not only science, though most good theories have a scientific base.)

Not having theory has greatly handicapped education, as many distinguished observers have noted. Without theory, one is forced to rely on opinion--and when everybody has an opinion agreement and progress become difficult. In a school with 20 teachers, we can typically find a wide variety of opinions being used as the basis of action. Fashions in opinions lead to fads and shifts in emphasis--often we find what was popular two decades ago has again become popular. We go round in circles instead of moving forward. Further, opinions can be hard to prove or disprove by results, because they are seldom carefully stated.

With good theory, however, we do get precise statement, and so probably a good chance to see whether application brings the

outcomes expected or hoped for. If not, we may conclude that the theory is defective. If results are in the expected direction, the theory is to that extent supported. Possibly by refining it, outcomes can be further improved. A sound theory should be able to predict to considerable degree what will occur when the theory is properly applied.

Scientifically speaking, any theory is tentative; no theory is ever "proved" for all time. If a theory rests on the best knowledge we currently have, however, and seems to "work" well in the real, practical world, it can be highly valuable, even if at some later time it is displaced by a newer theory. (The atom bomb theory held that matter could be transformed to energy, an idea that for centuries was regarded as absurd.)

Teachers and others working in schools usually have no experience in working from theory. Once they understand what theory is, and have a solid theory to apply, they can find this new way of operating much better than the old days of opinions. The theory enables people to work in harmony and good agreement, by strongly suggesting what should or should not be done. And as they see that applying a theory produces outcomes far more desirable and reliable than did old approaches, their enthusiasm for working theory may grow strong.

Proster Theory, discussed in this Guide, has been demonstrated to be a working theory that teachers can readily comprehend and put into daily use...with excellent outcomes in learning.

## HOW OLD IS OUR HUMAN BRAIN?

To the best of our knowledge, the brain that nestles securely in our skull, a box of bone intended to cushion and protect it, differs little from the brains our ancestors had 30,000 or more years ago, when humans often lived in caves and survived by various means of gathering and hunting. This "modern" brain may well be much older than that. It appears to have stopped evolving. When we deal with the brain, then, we are concerned with an apparatus that has long been "set" and fundamentally is not going to change, at least in our time.

Schools, on the other hand, can be said to be about 4,000 years old, and our present American type of school is less than 150 years old. Obviously, we can hardly expect the brain to change to fit a new device called "schools." To be brain-compatible, schools must change to fit the brain.

Nor is the brain an all-purpose apparatus by nature. It evolved as it did to meet a group of specific needs. Had it not met them adequately, we would not be here to worry about it. The first and oldest requirement of a brain is that it enable its owner to survive in the real world.

Our real world today differs in many ways from that of tens of thousands of years ago; but we still have that ancient brain in our heads, and it still guides our behavior and accomplishes all our learning.

It was not "designed" by nature for a world of brick homes, jobs, books, computers, and dangers from electric wires and spilled toxic chemicals rather than from cave bears, sabre-toothed tigers, and starvation in bad seasons. Our brain is marvelously adaptable because humans learned to live in many kinds of circumstances, but it still functions far better in some ways than in others. As we begin to understand this, we acquire the ability to use our brains far more effectively...and to learn much more easily if conditions are suitable.

# A BRIEF INTRODUCTION TO THE BRAIN

We are familiar with the idea that the engine makes a car go. A long time ago, this was a strange idea--horses made vehicles go, and automobiles were called "horseless carriages."

If we want a car to go more smoothly, or powerfully, or with less fuel consumption, we naturally look to the engine. We realize that knowledge and understanding of engines is required.

For centuries, educators had no idea of what made learning happen. But it is clear enough now that the brain is the "engine" for learning. Learning of the kind we are concerned with in schools occurs in the brain, nowhere else. To have a modern approach to learning, then, we must have a brain-based understanding. Only in quite recent years has it become possible and practical to apply this enormously important new knowledge. We don't have to go by tradition, or trial and error. We do not have to give way to pure opinion or hunch. We know what to do, and why, as was never the case in all the history of education.

The human brain is considered the most intricate apparatus in the universe. Scientists will be working to unravel its mysteries for generations to come. For educational purposes, we do not have to become brain surgeons--in fact, much of the most useful knowledge does not come from the neurosciences, but from other fields. But we do need considerable insight into how the brain works, and that calls for reading and study...and reasonable time to get used to some aspects of the brain that at first seem surprising, and even counter to old ideas we may have held to for much of our lives.

Here, very briefly, are some of the key facts and concepts useful to educators, particularly in terms of Proster Theory, which may be considered the best known of brain-based theories of human learning, and the most widely published or presented.

1. All learning occurs in the brain, after birth; and is stored in the brain.

2. All learning is built upon previous learning (beginning with some that has been genetically transmitted. The newborn infant has to know how to suckle, for example). When we teacn something "new," the student has to relate it to what has already been learned and stored.

3. Rote learning can be highly efficient, and can be retained

for a lifetime, if originally learned with vigor. What is learned this way is processed by the brain in a special way. Rote can be used effectively where what we usually call "intellectual understanding" is not essential. For example, the alphabet can be learned by rote, because it doesn't "make sense"--there are no clear reasons why the letters occur in the order they do. Broadly speaking, rote is learned by an older part of the brain than is used for complex understanding.

4. The brain is not a "bowl of Jello." Like an engine (but vastly more complicated), it has many parts and systems, all interconnected and affecting one another. Where the learning or other brain activity is brain-compatible, the brain works with ease--but it strongly resists being made to work in ways contrary to its construction.

5. We have heard much about the brain having a left side and right side. This is correct; there are two hemispheres, and they divide the work. But the importance of this to teaching/learning has been exaggerated and simplified in many cases. The problem is that individuals differ a great deal in how each divides the load. In fact, this is one of the key ways in which students differ. There is also overlap: to a degree, some processing may be done on both sides. We have reason to suspect that, in general, females tend to have more overlap.

6. Much more important is the triune architecture of the brain or the "three brains in one" concept--a simplification, but a most useful one. The three brains are of different ages, and work differently. The "new brain," the giant cerebrum, accounts for about 5/6 of the whole. But this is a slow-acting brain that by itself could never have kept us surviving. It works best when it feels secure. Under threat, it "downshifts" to more use of lower, older brains. For educators, this means that students will not learn well (apart from rote) when they feel under threat--as is very often the case in conventional classrooms.

7. Humans, unlike other animals, use speech, and a large part of the new brain (usually mainly the left hemisphere) is "reserved" for language. As one consequence, students must talk to learn, especially at the younger range. In classrooms that suppress talking, and other language use, learning is also suppressed. Teachers do almost all the talking instead of the children!

8. The brain is by nature a tremendously subtle pattern detecting apparatus. We must continually recognize what we are dealing with in life, to know what to do or how to cope. We do not have to teach the brain to detect and identify patterns--it does so as the result of millions of years of development. Thus we recognize a "door" even if we have never seen one exactly like it. We "know" the letter "A" by its pattern--the letter itself can take a great variety of forms. Before we can act on any matter (including an arithmetic problem) we must be able to see the pattern involved. This fundamental importance of patterns is largely ignored in conventional education.

9. Study of how the brain works provides a new, sharp way of defining learning. It is not what we remember, but rather what we can do--and we do by using programs, or sequences of steps toward a foreseen goal. To get a drink of water in the kitchen, we get a glass, put it under the faucet, turn on the water, turn it off, raise the glass to our lips. Everything we do, including talking, requires such programs. Learning, then, is "the acquisition of useful programs." Beginning at birth, we each acquire tens of thousands of programs, and store them in the brain. The recognized pattern tells what we are dealing with; the brain then selects a stored program for dealing with it. (Programs for related uses are stored in "prosters.")

10. Aggressive teaching, as usually done in classrooms, may (or may not) help to clarify patterns, but never can build programs--only the learner can do that. Each learner must "translate" or restructure what is taught, relating it to that learner's total experience and store of patterns and programs. If we understand this process, it can be assisted and facilitated; without that understanding, it may well be inhibited or distorted--as we see happening all the time. Using Proster Theory we can see what to do that will help learning, and what not to do that could hurt.

11. The concept of input--the raw material from which students can extract patterns, is highly important. High input will bring more and faster learning.

These points may help to convey that the brain approach provides some quite new and different ways to view and execute instruction. To large extent, they support and greatly clarify the intuitions of the most able, effective teachers. Experience shows teachers can readily comprehend and apply the theory, in suitable settings.

# PART TWO

## SOME ALTERNATIVES IN EFFECTING SCHOOL CHANGE

In this section, the knotty problems of bringing about change are dealt with by presenting them as alternatives, usually binary, like a railroad switch. One can choose to go to the left or to the right: there is a clear, sharp choice.

The complexities of changing schools are not denied or minimized for a moment in using this technique. It has the advantage of bringing the essential decision into the foreground, and usually of showing consequences of each choice.

Where several people must contribute to decisions, this "investigation by binary choices" may serve to bring into view differences and agreements, as a stage toward coming to a consensus that will permit and foster action.

This Guide has a clear point of view--that major changes are needed, not small changes--and this finds expression in the discussion that follows. It is hoped that the case for large change is well stated, and convincing, but in any case illuminating.

## DEFENSIVE OR AGGRESSIVE CHANGE?

Let's ask at the outset: with what motives are you considering school change? It's a touchy question, but one to be honest about if there is to be hope for some kind of real achievement.

DIRECTIONS OF CHOICE

| SUBSTANTIVE CHANGE | POLITICAL CHANGE |
|---|---|
| Major changes with restructuring and attainment of much better student achievement | Minor changes to "windowdress" and raise publicized test scores |

Beyond doubt, our schools in general urgently need a thorough overhauling and restructuring. The prime problem is that most schools are trying to use the 140-year-old class and grade kind of organization that dates back to Horace Mann and a time when the United States was a rural country of about 20-million people. Our needs today are hugely different, yet we still struggle with a system that never worked well at any time, and that is simply hopelessly unsuited to what we are trying to accomplish. To want seriously to effect school change, then, means to want to replace this antique structure with a modern kind of school, designed to serve present needs and adapt to future ones.

How we change, how we replace the wheezing old arrangements, how fast we go, are valid questions. But it seems clear that not much really substantive change can be effected within the limits of the class and grade structure. Some progress toward better student achievement no doubt can be made, but without structural change it plainly will not be enough to really matter. Suppose a family has only one quarter the income it requires to live at all adequately. Raising income by $1,000 a year will be "in the right direction" certainly, but far from adequate to meet needs.

If we are going to spend time, effort, and scarce money to effect change, surely we should plan change that will meet our needs, not leave us still far short of what is acceptable.

An idea seems to exist in many educational quarters that making a major proposal for school change, one that seeks very large gains in student learning and related outcomes, will shock and repel the community. In broad, little evidence supports this. It seems much more likely, from many polls and studies, as well as experience, that public and parents are prepared to respond favorably to a bold initiative, if soundly conceived and well presented.

What bothers many citizens is that the schools don't seem to care. They "sit there," year after year, with the same problems they had 15 to 20 years before, and 15 to 20 years before that. Meanwhile, they call for ever greater amounts of tax dollars.

In effect, local educators, including Boards, confess that they don't really know what to do. The schools currently are being severely criticized, but the local leaders don't lead. It is not surprising that state officials and legislatures have filled the vacuum and are trying to do so more and more.

## WINDOWDRESSING AND TEST SCORES

Political change, to "take the heat off" local educators at least for awhile, can be tempting. It can be seen as a way of deflecting the brickbats for the moment, gaining a respite during which substantive planning can be worked out, raising staff morale, and keeping "intruders" from moving in.

The trouble is, windowdressing can be hard to achieve without it being apparent that that is the objective--to "pretty up" the picture by a variety of means, from paint to public relations handouts, ceremonies, awards, and review of the glorious past. In a fairly short time it can produce backlash, and awkward questions in meetings and press.

Raising scores can prove even harder. An initial improvement can be obtained, as a rule--let staff feel that the unspoken order is "raise scores, or else..." and some gains will soon appear. The means are many: continuing to use old tests that ask familiar questions; steering some students away from the test-taking; allowing more time or giving help; massaging the figures with some "errors" in calculating; finding ways of reporting results that appear to show cheering gains. All these get used in many instances, by tacit understandings. The cat gets out of the bag when the gains don't continue next year.

With many states setting up "accountability" sections staffed by people who know all the tricks, the more blatant stand much more risk of exposure than previously.

Worst of all the effects of "score raising" drives seems to be that on teachers. Feeling threatened, some decide to avoid all possible criticism by moving toward the old rigidities: doing more whole-class lecturing, requiring more drill, rehearsing and cramming for tests, narrowing down instruction to suit the tests even at the cost of all other learning. Where minimum competency tests get emphasis, the teacher too may concentrate on minimums. Scores may rise slightly--but severe damage may well have been done to student progress and teacher morale.

Most sophisticated educators in a position to affect policies know full well that the tests widely used are far from perfect instruments, and even less so when all the potentials for error and misuse are added. Public, parents, press, and sometimes Board members believe that the tests measure "what has been learned," but usually the testmakers themselves make no such simple claims. If the tests are the "mechanical" type, calling for multiple choice fill-ins, many aspects of learning cannot be measured directly--for example, ability to write prose. Yet willingness to play the test game tends to express acceptance of the tests as valid and reliable. One can understand the many pressures on administrators and Boards to comply--but some see doing so without protest as like trying on the hangman's noose for size. Later, it may be tighter.

## A CONSTRUCTIVE SOLUTION

One approach which may well raise scores and keep raising them, but seems all too little used, is the "quality control" method.

Instead of instructing students for long periods, and then finding by exams and tests that they have failed, the QC effort aims to <u>assure</u> learning and not tolerate failure. Student progress is observed closely and evaluated frequently. If the student is not learning, <u>some corrective must be taken at once</u>.

In many schools the old tradition of blaming students for their failure and giving out a failing grade as a sort of punishment continues in force. A certain "normal" amount of failures is expected and tolerated--especially if these students come from

low-income and/or "minority" or second-language backgrounds. Such students may do poorly in the conventional classroom where conventional methods are used. They may do far better when the instruction does not deplore their deficits but recognizes and responds to them. Often the worst performing of these failing students are put into "remediation" programs, which a good deal of research shows tend to be expensive but of little value. The remediation may represent more intensive use of the same ideas and methods already long demonstrated not to be effective.

Alternatives are available. The key issue for administrators and Boards, however, is whether to permit failure as routine, or to demand high expectations and insist that failures must be reported early, for action. The latter decision can lead to development of a program, beginning with a search for suitable techniques. Even putting a spotlight on failures can result in gains by helping to break the pattern of certain teachers simply "writing off" some students as likely failures, on whom time and effort should not be "wasted." Such teachers, given help and encouragement and fresh input, may welcome efforts to reduce failure.

A successful program for QC and early recognition of inadequate learning, coupled with the use of methods other than those that are known to fail consistently, can have a significant effect on many test scores. The gain can become cumulative throughout subsequent years.

DIRECTIONS OF CHOICE

| INVESTIGATE | RESIST CHANGE |
|---|---|
| Actively seek possible alternatives for old approaches which bring constant problems | Cling to old ways or small modifications while shutting out alternatives |

Schools characteristically have been defensive organizations, perhaps beyond the realization of those involved.

The present pressures for change--and large change--run head on into this long-established attitude.

The same resistance to change and new ideas is easy enough to find in nonschool organizations, such as businesses, scientific laboratories, and the military, as many books on organization note. People are people. But because of the nature of schools over generations, the aggressive, inventive type of person has tended to go elsewhere; or if hired, to leave after a time for greener pastures. Thus schools may lack a good supply of people who feel confident when considering alternatives and new ideas, and willing to work out practical applications.

By and large, other types of organizations know they have to meet competition--and if possible, stay ahead. They attract and look for aggressive people, and usually devote a substantial share of income to research, development of new products and services, studies of ways to use people and machines better, and ways to streamline operations and eliminate waste. Profit organizations, of course, may feel pressures to do these things --or lose their share of market and earnings. We do not have to look back far to see what happened to our huge, dominant auto makers when they became too complacent and paid too little heed to foreign competition. We can find parallels in many other kinds of organizations, in many fields.

For good reason, schools have long had a tradition of not being critical either internally or publicly. In part, this reflected schools' dependence on funding--it was felt wise not to alarm the taxpayer, and not to fight openly the state and other agencies. If vigorous public debate developed over a proposal, would the necessary referendum or bond issue get passed? Would parents and others have confidence in the schools if the professionals appeared to argue among themselves? Would the school's authority shrink with both students and parents if arguments erupted?

Today this tradition of clinging to the old and resisting, even shutting out, potentially very desirable alternatives, amounts to providing the rope for one's own hanging. It invites others to intercede--as states and governors are now doing. It also opens the door and puts out a welcome mat to all forms of competition, some of them based on newer technologies.

To repeat, schools must bring about far better student learning. Nothing will substitute.

## ADOPTING A "WE'RE LISTENING" POLICY

Clinging to old ways guarantees continued learning failure. The reading and math and science "problems" have been with us for decades. Anyone familiar with educational history sees the same wrong efforts being repeated again and again.

Declaration of a new policy, aimed at investigating alternatives, calls for joint action of Administration and Board. Obviously it must be genuine, and immediately implemented by

1. Setting up a group to receive and consider alternatives for investigation. (Investigation does not imply adoption, but study.)

2. Inviting suggestions from within the organization, and from the community.

3. Development of a plan of procedure for the group to create an inflow of information from outside sources.

Unfortunately, few school systems have staff people assigned to this kind of work full or part-time. Possibly at least one can be worked into the budget, or other funds found (possibly from a local foundation or business group.) Once the doors have been thrown open, and the policy publicized, much can happen.

Literally millions of students have attended schools using other than conventional classroom methods. Much more study of results could be profitable, but what exists strongly suggests that the alternative approaches prove viable, no more costly, and bring about learning at least as good and usually better. To survey, even on a small scale, what is already available can provide an eye-opening body of information on what can be done.

## SOURCES OF PRESSURE FOR CHANGE

Schools are under pressure from an unprecedented combination of sources, which in sum demand that schools become better (that is, produce students who have learned much more and are far better prepared for subsequent activities), and that schools convince a now skeptical public that this has in fact happened. These are among the sources:

1. Tax escalation--more money required for fewer students.
2. Long dissatisfaction of various "minorities" with their children's progress, and their lack of influence.
3. Complaints of parents of college students that their children had admission problems or had to take remedial courses--aggravated by the high cost of college.
4. Complaints of employers that they find graduates badly prepared.
5. Periodic difficulty of military services in recruiting competent graduates, and need to provide more training.
6. Large numbers of young people, especially in major cities, (up to 40%) considered unemployable because of poor academic attainment and work habits.
7. Widespread alarm over the poor grasp of many students of fundamentals of American history, principles, and civics.
8. Increased active interest of corporations in education.
9. Far more aggressive role of governors and state departments, task forces (by the hundreds), and legislatures.
10. Flood of reports, many highly publicized, by various commissions, study groups, and researchers.
11. Loss of majority support in community, as most of population does not have children in school.

## CHANGE CAN BE EASIER THAN RESISTANCE

The list on the preceding page could be longer. You may be able to add items currently affecting your school system.

Since a school is a service organization, it has little choice but to respond to changes in society and in the community.

One often hears older teachers talking about how wonderful things were in the good old days. Perhaps they were, and perhaps they weren't, but in any case they have passed. It can be sad to see people who have fallen into the habit of looking backwards.

We hear others say that schools can't be better than society, so we should first change society. Plainly, this is a cop-out. The school has no power to change society, but it has a great deal of power to change what goes on in the school.

At times it may seem easier to say, "Let's just survive one more year--we don't really know what will happen." That may be very similar to saying, "Only one room of the house is on fire. Why get excited?" Or, "These worn electric wires haven't started a fire yet--why worry?"

Resisting change, trying to get by with trivial changes for one more year, is a negative approach that

1. Lowers morale, fosters complaining and infighting.
2. Tends to drive away the best staff people.
3. Probably results before long in a "blow-up."

In contrast, well-conceived change efforts

1. Stimulate people, raise morale, create new interest.
2. Get many good people involved, working harder.
3. Attract active support, even funding.

"Just trying to survive" may prove the surest way not to survive. It invites every competitor and enemy to move right in.

Governors are making a big issue of improved schooling in almost every state. They feel the heat. The heat is real.

## MANY MORE PEOPLE ARE NOW READY FOR CHANGE

The assumption that "people don't want to change" and will resist today can easily be exaggerated.

Boards of Education vary greatly in majority attitudes, but the members today are almost all aware of the public, often "official" criticisms of the last few years, and of large decline in scores over a longer period. While members may have conflicting ideas on what to do (see following "directions of choice" discussions), relatively few favor "just sitting," as was more often the case before the blast of negative reports. Boards may respond well to proposals for change that are well conceived and presented, especially if the pilot approach is used to reduce risk. Boards are also being pushed by the state's activity on large-scale change plans, which usually increase state influence and reduce cherished local control. The argument, "If we don't change to improve learning, the state will change our schools for us," can be effective. In many cases, states offer a financial incentive as well. Boards feeling uncertain may welcome crisp action plans.

Superintendents, who well understand how political their jobs are, may feel that appearing to resist state pushes can be risky. On the other hand, state plans are complex and sometimes vague, and local initiate can be blended in. The best defense against state interference and bureaucratic annoyance appears to be to demonstrate local ability to improve student learning. State officials will rarely challenge local systems that have results to point to. But many state plans call for detailed reports to be issued to the public before long. Where these come out heavy on negatives, both Boards and Administrations will be in hot water.

Principals, who have long operated in many cases on a "don't rock the boat" principle, are now inclined to make far more vigorous efforts than ever before to effect major improvements, both to show ability and to avoid invidious comparisons as individual building learning outcomes are much more closely examined. Some Principals who don't know how to be "instructional leaders" as now often demanded may welcome practical plans that help them progress in this role. Most importantly, Principals want and need firm backing and "go" signals from above and will act if assured their change efforts will be encouraged and appreciated.

Teachers appear far more willing to consider and participate in major change programs than ever before. This may reflect the many recent stresses on teachers, including loss of security resulting from declining enrollment and acute budget squeezes, the undeniable drops in various test scores, increased problems in controlling students in many situations, and incessant, often harsh criticism directly or by implication. Female teachers tend to be well aware of the advances women have made, and resent what they see as a powerless and subservient role. Inflation may have increased awareness of low pay and poor advancement prospects. Teacher unions do not necessarily resist change. At the NEA conference in summer 1984 a study group brought in a report stating that public schools "must be totally restructured," language that signified a large shift of position.

Parents, judging by polls and surveys over many years, have long been ready to accept major changes, and many may feel that schools have exhibited a "stick in the mud" attitude out of keeping with the frequent change they deal with in their occupations. When change is proposed, some parents will express anxiety about the use of their children as "guinea pigs" in an experimental program, but usually can be convinced to go along with a sound effort that is well explained. They can become strongly supportive when favorable results are seen in their own children's progress. A few "noisy" objectors, who have motives unrelated to the new plan, can be expected but do not represent a large group.

Taxpayers who do not have children in the schools or about to enroll may object if large new funds are required, but otherwise are today more likely to welcome or at least be neutral to any action by the schools to improve results achieved. Care may be needed to see that some report or rumor is not allowed to gain momentum through failure to counter distortions or failures to comprehend the plan in the early stages.

Officials, editors, community leaders and others with influence are less likely today to cause difficulty, in view of the drive for "excellence." (But careful handling is still required to see that egos are not wounded by providing skimped information or by untactful statements.)

Students in the primary range usually accept change readily, but with increasing age may be resistant, at least at first. They normally feel they have learned how to beat the system, or at least survive, and do not want to have to learn anew. Strong resistance may be expressed, oddly enough, by students who have done poorly and have the least confidence in the school staff.

## COMPLEX DECISIONS IN CURRICULUM

"What should we teach?" has long been an invitation to battle, and conflicting views are evident in the many recommendations offered by various commissions and the like.

The discussion of choices that follows is intended to throw some light on the real nature of the options. (Warning: some of the alternatives explored may startle, shock, or seem absurd at first look. When new concepts replace those old and familiar, this is often an initial response. The key word here is "consider." The new ideas should not be brushed off, whether or not they ever win support--study of them can in itself be illuminating and helpful in winning ultimate agreement on action.)

DIRECTIONS OF CHOICE

| NARROW CURRICULUM | BROAD CURRICULUM |
|---|---|
| "Tight" courses. Emphasis on basics. Teach less, but teach it more demandingly. | Emphasis on pattern, integrated learning, with basics supported by a global approach. |

Between these extremes much room exists for compromises and taking the middle ground. At present, decisions on curriculum likely are made on the basis of "what students should learn," without facing the reality that the connection between what is taught and what students actually learn is weak and unreliable. With our current, new knowledge of learning (see section on the brain and brain-compatibility) far more insightful decisions can be made, and agreement more readily reached.

Superficial, common sense, or traditional decisions may backfire, leading to results the opposite of those intended.

SCHOOL EXAMPLE

MATHEMATICS. It sounds sensible to urge teaching less but teaching it better in a subject such as beginning math. But in practice this could mean that emphasis is put on having students learn algorithms (procedures). They learn fairly well to "push numbers around" in response to direct orders, but gain little understanding of what they are doing or any "feel" for math. While they may score acceptably on tests

that demand no more (some questions may be answered by the non-math method of counting on fingers), they fail to build much understanding of what math is for, and tend to become "math cripples" in higher grades, unable to handle word problems or more advanced concepts requiring a foundation. A pattern-based approach may slightly delay progress in the execution of algorithms, but can be highly successful in laying a foundation, and liking, for math. (We should note that in real life the need for skill and speed in algorithms has almost vanished, with the coming of calculators.) Also, the more global pattern approach tends to more reliably prevent initial failures in math, hard to overcome later.

LANGUAGE. In teaching a foreign language, a tight approach may largely ignore the history of the language, its relation to other tongues, the customs of the people in countries where the language is rooted, and other "soft" aspects. The tests to be taken may also ignore these factors. But the cost can be less interest, acute boredom, and production of students who in some cases can pass the tests but have no practical command of the language whatever.

In both examples, the more global approach may (not necessarily) bring slightly lower immediate scores on "mechanical" tests; and if badly executed and supervised, maybe too much "fun and games" and inefficient use of time. Basic curriculum decisions, however, should assume good instruction, if that can be a reasonable goal.

The fact that common sense and trust in tests may bring contrary learning outcomes is well known to many administrators and curriculum specialists, but may be less evident to Board members, especially those who wish to take a "hard boiled" attitude, or have little depth of experience.

DIRECTIONS OF CHOICE

| PAPER CURRICULUM | HIDDEN CURRICULUM |
|---|---|
| Reliance on what various documents state shall be done. | What actually happens where teachers and students interface. |

Many studies show that the "hidden" curriculum can vary a great deal from the ostensible, "official" curriculum.

SCHOOL EXAMPLES

Third grade teacher Mrs. K. is supposed to devote two hours per week to science. Since she doesn't like science, and feels insecure teaching it, she actually averages less than half an hour a week, and even then stretches "science" into other topics barely related.

Ninth grade teacher Mr. J. according to the paper curriculum uses a certain social studies textbook, which all his students have. But since he likes another text better, he uses it as the basis for lectures and activities, and goes to the official text only before exams.

Sixth grade teachers Mr. P. and Mrs. W. both think of themselves as following the paper curriculum closely, but third-party observation shows that they differ widely in what they do as instruction, how they do it, and how much time they assign to topics and activities. (This variation, which can be extreme, has been well documented as being common.)

Clearly, there is a Choice of Direction for Administrators and Board, between seeking to enforce the paper curriculum, or going with the hidden. "Hidden" seems an appropriate term, because rarely is this issue brought into the open, especially publicly. It raises the "deep" authority problem, a sleeping dog best not roused. The school simply does not have suitable means of enforcing an official curriculum, except in broad terms. Teachers normally get very little supervision on instruction, and where they work in classrooms, can easily resist the efforts of the Principal or others even to see what is happening behind closed doors.

Teachers know that Administrators can't often afford the time and persistence enforcement would demand. Administrators at all levels do not go about their work by looking for battles--they are aware of their limited power, and learn to compromise and look the other way rather than confront teachers who appear to run their classes without creating obvious problems.

Under the urging of Board or state directives, some Superintendents may lean hard on subordinates to comply, but as the orders percolate down to classrooms, much slippage can occur. Often it takes the form of ostensible compliance for awhile, with gradual movement to what the individuals involved prefer. Teachers want to "feel comfortable," and may not know <u>how</u> to do new things.

Changes in what is taught and how that is done can, of course, be effected. But even sharp, forceful decisions at high levels do not automatically bring implementation and compliance. Time must be allowed for transitions; teachers must get help and good support in moving to new ways; and means must be found to prevent the "backsliding" to old ways that can readily occur in the usual school setting. In short, the paper curriculum can often be, in large part, an exercise for those who make it, while the hidden or actual curriculum continues, only vaguely controlled and to large degree, not even known to higher Administration.

A firm plan for change is needed to appreciably alter what is taught. (We should always remember that what is taught relates little to what individuals learn.)

DIRECTIONS OF CHOICE

| TRY TO CONTROL | ALLOW MUCH FREEDOM |
|---|---|
| Keep a tight rein, go by detailed plans, enforce top-down orders strictly. | Establish common, accepted goals, let people achieve them as best able to. |

This choice would not have been considered a couple of generations ago. Schools emphasized control, in part because of

1. The ancient concept that children were born sinful, and had to be saved from a bad life by close guidance and instruction, with plenty of punishment.

2. The once popular notion that a child's mind was a blank slate, in total need of adult direction.

3. Tradition stemming from early schools, which usually were concerned with religious indoctrination, not to be argued about. (Even adults might be burned at the stake for any deviations.)

4. Demands of the long period of coping with immigration in America, seen as forcing rigid, mass treatment as the

> only practical means. The hordes of foreign children were regarded with little respect, and in need of tight control, beyond question.

A factor much alive is custody. Although seldom discussed out loud, many parents feel they pay school taxes to have schools take their children off their hands for many hours, and they want the school to "keep them in line"--some even want the school to punish and discipline to save parents that duty. With the sharp growth in working mothers and single-parent homes, custody has been accentuated. In some places, new waves of immigration bring up old problems and attitudes.

Counter influences include the broad rights movement, with court support of children's rights. The freedom of Principals and others to punish or make arbitrary rulings has been eroded. We must note, too, that child or student today can mean a male over six feet tall and weighing an athletic 180 pounds. Some only 12 years old or so may be drug users, alcoholics, prostitutes, house breakers, muggers, or gang members. The days of innocence have vanished. It is not hard to find schools that in response look like prisons, with burly guards and police on call. This hardly fits with our nobler concepts of education.

## STUDENT REACTION TO CONTROL EFFORTS

An alarming aspect of schooling today is the passivity of many students, who drift through the years seeking the credentials that they suppose will set them free or win them jobs. They may not fight the control so much as learn to "beat the system," find ways to survive with the least effort, and endure boredom.

The contrast between this attitude and search for "excellence" brings pain to observers, who also note that older students pay active attention to social matters and sports almost to the exclusion of interest in academic achievement. The more control the Administration attempts, the less effective it may be, and the more negative in outcomes. It can be argued today that the old concept of powerful, adult-judgment control has become obsolete and sometimes ridiculous.

## SCHOOL EXAMPLE

> Most adults recall well the great "hair" battle. Male youngsters began to wear their hair longer, even going to ponytails. The outcry was shrill and "hair code" battles emerged, accompanied by great emotions and cries by adults

that long hair threatened all decent values. Clearly, the youngsters won the struggle, the more completely as widely admired, role-model athletes, actors, professionals and finally business executives moved to longer hair and beards. Looking back, we can only wonder that such intense conflicts raged. Schools, caught in the middle, were shown to have far less than traditional authority.

When drugs invaded the schools, adults in and out were often totally unaware, for years, of what was happening, and many still know little about the problem. When youngsters added alcohol, again a great lag in information followed. In some areas, teen-age pregnancy rose shockingly, but was little understood and weakly dealt with. Rising suicides have also caused alarm and mystification.

In short, adults today often are little aware of the rapidly changing trends and fads that engage young people, some harmless and others deadly. This puts parents and school people alike in a weak position to exercise control. There may be a long lag in appreciating the size of the generation gap and the lack of correct knowledge of what is happening and the implications.

Efforts to exercise control offer a choice:

DIRECTIONS OF CHOICE

| "BE TOUGH" | LEARN, ADJUST |
|---|---|
| Win the battle, show who is boss. | Investigate, get the facts, keep cool. |

War is expensive. In schools, the cost multiplies, as it affects learning outcomes--the "bottom line." No school can afford the non-educational expense of Assistant Principals and others who put a lot of time into discipline, or guards or security measures. Because "regular" school can be boring and battles are exciting, the conflicts can bring major disruptions. Even when settled (with the school probably losing), bitterness and divisions may remain.

While exception can be made for schools wildly out of control, in general no organization can afford battle and confrontation.

## ATTITUDES OF HIGHER EXPECTATIONS

Old attitudes can survive for many years in schools, and may grow stronger. At the present time, schools are at a watershed of the greatest significance in considering and effecting change.

DIRECTIONS OF CHOICE

| PUNISH, PUT DOWN | CORRECT, LIFT UP |
|---|---|
| Many children are poor types. Make them suffer. | Virtually all students can succeed if assisted. |

For a long period, public schools functioned in part to separate the sheep from the goats. The children from the better homes were to do well; those from poor, minority, or immigrant homes were largely expected to learn weakly or drop out. They could then take the low-level jobs freely available.

As schooling was extended through high school for all, and jobs for the less schooled evaporated, pressures developed to serve all students, and reduce dropping out, even if students retained learned little or nothing. One result was large pools of young people unprepared for most work--"social dynamite."

But old attitudes remained among many school people, and public, that various groups of students, and some individuals, could not learn adequately and could not be expected to do acceptably in school. They were often "written off" by teachers and others, and in due course punished by being classified as failures and denied various options. In response to this treatment, many misbehaved and frequently drew many other punishments. These conflicts reinforced the original prejudices, which often also involved racial, ethnic, and social bias. In addition, as noted, was the overall old tendency to see youngsters as needing and deserving punishment. Teachers and Principals devoted much time and effort to punishment, usually assuming this to be a normal part of their duties.

The practice of "putting down" most students continues widely. Observing in classrooms, one is struck by the rudeness and lack of respect for students of all ages--this is so common as to appear to be traditional, with exceptions remarkable.

The concept of "high expectations" has come to the fore quite recently, and is included, often vaguely, in many of the sets of recommendations now being aired. Much evidence suggests that low expectations may become a "self-fulfilling prophecy," producing the expected failure or low attainment; while higher expectations do indeed tend to bring better outcomes. A few advanced schools are able to show that failures can be very largely eliminated, if they are not expected, not tolerated, and detected early and corrected.

Choosing to move toward high expectations, as a key aspect of school change, represents a sharp break with tradition, and a welcome shift from negative, punitive attitudes toward positive measures.

## STAFF VIEWS WILL AFFECT SUCCESS

Individual staff members may have difficulty dropping their old attitudes. Some may believe that punishing is "what a teacher does," an essential part of the role. Others may harbor various resentments such as yearning for the good old days, antipathy toward authority or newer staff members with less rigid ideas, and old wounds from slights or disappointments of the past; and not realize that these are routinely passed on to students.

Changing these views and the practices they generate can be very difficult if the teacher, for example, continues to work in a classroom behind closed doors and little observed by other adults. Administrative refusal to accept failures as before, and coaching to help teachers change, may prove helpful. So may inproving the working conditions, and giving staff members more participation and say in planning and decisions. The effective step, however, is to get the staff member out of isolation and into team efforts where others will have influence and demonstrate other methods. In a larger setting, high standards of courtesy and respect, from all to all, can be quite readily instituted.

> The shift from negative, punitive attitudes to positive high expectations and respect for students--<u>all</u> students --can prove of extreme importance and value in moving a school toward "excellence."

## THE BASIC IMPORTANCE OF LEARNING

People concerned with schools usually exhibit almost an obsession with teaching and the traditional routine of "keeping school," and assume that teaching more or less automatically will bring about learning, and that learning will not occur without direct teaching.

These ideas, no doubt, are rooted in the negative attitudes held toward the young, explored above. Conventional instruction has long been seen as unpleasant, uninviting, threatening, and boring. This holds especially for males; female students tend to be treated more gently and may be more compliant in general (or were, if less so today.) Learning is not supposed to be "fun" or even enjoyable, but rigorous and "disciplined"--an unvoiced feeling about gifted children is that they seem to learn without effort, which seems unfair and somehow a character defect.

This image of the stern teacher, plowing tight-lipped ("don't smile till Christmas") through the "logical" step-by-step parts of a text or manual, persists--as sort of a model of what is needed. Teach 'em...no nonsense...and they will learn.

The outcomes show just the reverse. The more aggressive teaching is used, the poorer the student attainment. The two subjects most vigorously taught are "reading" and math--and these are the two in which results are the most shockingly poor. That teaching does not produce learning could hardly be plainer; but the fact is strongly resisted by those who have a desire to punish the young, for whatever noble or other reasons, and those who teach or are involved with teaching. These last may feel that if the fact is admitted, their foundation for their roles will have been destroyed--leaving them like horseshoers in an automobile age. This leads to a choice:

DIRECTIONS OF CHOICE

| SEEK ORDER | SEEK LEARNING |
|---|---|
| Schooling must run smoothly; learning will follow. | Emphasize learning. If obtained, order will follow. |

In schools, in meetings, in conferences, in literature, we see endless concentration on teaching, with almost no attention to the nature of learning (as stated here, a brain activity) and

how it may be reliably brought about. Teachers say, and others agree, "First I must get order in my class so I can teach." And slews of experts describe how a teacher should teach--even if they cannot relate that behavior to adequate student learning in actual school situations.

Much evidence and experience suggests that if students sense that they are learning well and that the learning is useful, they behave like angels, come to school eagerly, and willingly take much responsibility for their continued learning. (Many people working in or with conventional, ritualized schools do not accept the fact that this is what happens. They have never seen such a situation, and may in fact be none too willing to visit one.)

In inner city and "difficult" schools the "proper" rituals of teaching fail to meet the needs of the students at all. Their failure to learn even the simplest fundamentals has to be seen to be credited. But though this kind of aggressive, conventional teaching fairly screams out its ineffectiveness, some staffs continue to try to make it work rather than looking for alternatives that might do far better. They blame the students, who are told many times a day, implicitly or otherwise, that they are stupid failures. Small wonder that they become hard to control!

Fortunately, realization is growing that if the school cannot bring about student learning, it has destroyed its main reason for existing--at great public expense. One major movement seeks "outcome-based" approaches to instruction and management. The "mastery" approach has a related viewpoint. Brain-based schools, of course, are completely focused on learning as coming first.

The concept of the orderly classroom in which the Teacher tells students what to do, when to do it, how to do it, and when to stop is largely mythical--and a boobytrap. If achieved, it guarantees a low level of mediocrity.

Learning must come first, in all school decisions.

## DEALING WITH THE INDIVIDUAL

Teachers, with rare exception, express the view that recognizing and responding to individual differences is both desirable and important. Yet many studies show that they seldom are found by observers to be doing much individualizing. The main reason is that the graded classroom was designed and intended to foster group processing of children--the precise opposite of treating them as individuals.

Today, we better appreciate how greatly students differ and in how many ways. A brain-compatible approach goes much further in showing how no two children are alike. In planning for major school change, this creates a switching point:

DIRECTIONS OF CHOICE

| GROUP | INDIVIDUALIZE |
|---|---|
| Force students into fixed groups and deal with groups. | Recognize each person as unique, deal with individuals. |

Few choices have such pervasive consequences. A school that will not depart from old grouping techniques--leftovers from the early concept of schools as imitations of factories--is doomed to continued struggle to utilize a structure that has never worked to produce learning for all, or even most. The "group" choice just guarantees that much failure, weak learning, and dropout will occur. For well over a century, there has never been any other outcome.

To many in education, school means grouping. Not grouping will usually be viewed as remarkable, in the same way that early cars were seen as "horseless carriages." Even those who seem sincere often seem unable to see grouping for what it is, as in the case of the elementary teacher who says, "Certainly I individualize! Why, I now have four groups in my reading periods." Or, we may see Teacher, Principal and Specialist confer on what to do with a student...and end by moving him or her to a different group!

In the old one-room school--the truly American kind of school, remarkably successful considering its meager resources--the huge

range of the few students made grouping impossible. Accordingly, the teacher saw students as individuals, and grouped only on occasion, and temporarily, when she saw perhaps three students who could be instructed together. If one moved ahead faster, the unit was dissolved and others formed. More advanced students tutored younger or less advanced, informally and routinely. The set-up was highly flexible--and it worked.

As schools grew large, grouping came into practice, and became elaborate and oppressive, leading to tracking, and many special groups such as gifted and talented, learning disabled, remedial, and more, as well as the standard classroom, with an arbitrary group fixed for semester or year. Examination of a school will usually show dozens of groups--more and more tend to be formed because the reality of individual differences conflicts with the old tradition of trying to teach the same thing to all in the same way. Often administration fails to realize that this sort of grouping can be very expensive.

## ORGANIZING TO INDIVIDUALIZE

The fixed-group or factory school was initially seen as efficient because it could process all students the same way. It quickly became apparent that this was a delusion: the students were far from alike and the uniform processing did not work. But the simple-minded effort to make it work has continued to this day, and the efforts begin with the thought of "how do we group?" rather than "how best can we serve these individuals?"

As adults, we resent grouping and demand to be seen as one person, I, unique. If a store does not have a wide selection of garments so we can find one to our taste and that fits, we go elsewhere. Buying a car, we choose model, options, and colors, so that our mass-produced vehicle rarely matches any other we encounter. Even in the Army, the old notion of standardized humans long ago gave way to special assignments and duties--and what remains of forced alikeness is deeply resented. In a restaurant, we expect a menu and much choice. Even in a hamburger-by-the-billions place, we want our own variation, and can get it. None of this is "efficient" in a factory sense, but those in charge manage to respond to individuals. They organize to do just that.

Schools think so universally in terms of grouping that there may be failure to realize that the practice of dealing with people in groups is rather rare outside of schools and similar institutions. Even on the assembly line, factory workers do various jobs, and today may be rotated to learn more. Personnel people spent much of their time trying to match individuals to jobs, and the trend increasingly is to recognizing and using differences as against the old factory notion of forcing workers to comply to a mold. "Flextime," which gives employees choice of working days or hours, is widely in use. Where people are treated still as interchangeable things, and often so viewed by backward unions, resentment may run high and cause low morale and high turnover.

Fighting the fact that people differ and that they demand to be regarded as individuals puts a tremendous drain on the school's energy. The potentials of moving toward individualizing are vast (a) because it can lead to greatly improving the "climate" of the school, (b) it can help to modernize the entire structure, away from the long unsuccessful factory type of school, and (c) can clear the way for enormously more effective, brain-compatible instruction.

Dedicated, realistic, and humane educators have long leaned toward individualization, but often have had to bend, break, or get around school rules and practices to do so. To continue this interminable daily battle between the rigidity of grouping and the realities of individual differences makes no sense; and any effort to bring about major school change presents opportunity to move to a far firmer foundation.

This Guide urges that the opportunity be seized.

## PRIME OBSTACLE: THE CLASSROOM

People in and concerned with schools generally accept without question the idea that a school must consist of a collection of "boxes" called classrooms, plus (as funds permit) a few larger spaces such as gymnasium, lunchroom, and auditorium (perhaps combined) and a few offices. This represents, still in pure form, the factory concept. Students are "batched processed," as an engineer would say, from department (first grade) to the next department (second grade), at a fixed rate. As noted, the idea doesn't work in actuality and never did. The current reports and general harsh criticism reflect this, and underlie the wide demand for change.

The graded classroom concept did not come from Mount Sinai, but largely from Horace Mann, who popularized it in the 1840s. We know Mann's aims, which made sense at the time, but are ancient history today. Mann had reason to introduce these classrooms, as we have reason to get rid of them. A large literature on what happens in classrooms exists and is well known; none of it gives support--it is overwhelmingly critical. The classroom as an organizational and instructional device survives only because many glaciated, timid school Boards and Aministrators have not yet felt pressure enough to grapple with what admittedly is a large task--moving to much superior ways of organizing, that permit and encourage far better learning.

Alternatives exist. Indeed, many millions of children have gone through essentially nonclassroom schooling. That alternatives are possible, practical, and viable cannot reasonably be doubted. Proster Theory and brain-compatible concepts offer means of much improving even the alternative structures, and there are already indications that student learning can be jumped strikingly.

### WHAT CLASSROOMS DO TO TEACHERS

A number of studies show convincingly how the classroom structure affects what teachers do, almost automatically--only the rare, strongminded and "tough" teacher can much resist.

First, the graded classroom puts a penalty on better learning. If the teacher allows many students to "run ahead" of the grade aims, they will get into the work of the next grade--causing outrage of that teacher. Teachers know that letting students

learn as well as many may be able to is a cardinal school sin. The graded classroom is a design for mediocrity.

To call for "excellence" while still using a device intended to produce at best lockstep, restricted learning must be considered a painful irony.

Typically, the classroom device pushes the Teacher into certain instructional behaviors:

1. Lecturing, "telling," talking at the whole group.

2. Demonstrating, usually a variation on lecturing.

3. Recitation, asking students for answers to questions that most often deal with simple factual matters, or recall of text. (Since teachers need answers to keep "covering the material" or lesson plan, they normally seek answers from only a third or less of the class, who can and will give them. As several studies show, most of the class likely is ignored.)

4. Seatwork, often given to keep students occupied to allow the teacher respite or time to do paperwork.

5. Correcting seatwork, homework (usually of the seatwork type), essays, reports, and the like. "Correcting" most often really means showing errors and giving marks, with little or no attempt to coach the individual student so he or she can do better next time. One recent, major in-classrooms study showed teachers almost never assisted individual students by such coaching.)

These activities take up a large portion of what time is given to actual instruction, which may often be less than half of the official scheduled time. Unfortunately, modern brain-based theory of human learning (Proster Theory) strongly indicates that these five behaviors produce very little student learning. This might be incredible, in view of their wide use, if we did not have the dismaying hard results of the best indicators. When we see that the classroom robs teachers of instructional time and then forces them to use highly ineffective techniques, we can comprehend the miserable learning outcomes.

Alone in a "box," the Teacher must keep control, and feels compelled to try to direct all activities--a wearing task.

## DIRECTIONS OF CHOICE

| TEACH AGGRESSIVELY | PROVIDE FOR LEARNING |
|---|---|
| Teacher covers the material, students passively obey. | Teachers guide, students take an active role. |

If we know one thing about schooling, from years of actual experience, it is that aggressive or "didactic" teaching works very poorly. Much failure is expected from the outset. A teacher anticipates that some of the students will get a good grasp of the material thus taught; others will get only a marginal or garbled command; and a good many will show little evidence of learning. Of those who appear to learn the best, half or more may have been able to pass a test on the material before it was taught. Of the whole class, frequently half or more of the students will not achieve anything that could be called "mastery" of the material. Yet the teacher worked hard, with some skill.

Further, we know that typically aggressive teaching of the conventional kind has negative effects on many. It may, for example, "kill off" interest in a subject, or even make the student hate it so that thereafter it is avoided. Or it may put students on wrong paths that assure early or later failure--examples often seen include trying to read word-by-word, or to do math by what amounts to finger-counting or operations without insight. Science may be taught so that many students get a very wrong concept of what science is all about and of the scientific approach that so greatly influences our real world.

Originally, teachers were seen as those who "had the book" or knew the material, while students were ignorant, empty vessels. The teacher's job was to pour the knowledge into the students. This concept has limited use today. We are concerned not with what the student can recall from memory and regurgitate on an exam or test, but with what the student can do, even with new and unfamiliar material. There is far too much material to put into memory, and it constantly needs updating as it changes and as important new material develops in a fast-changing world. A century ago, it was important for students to learn to "cipher" (make simple arithmetical calculations), an ability that could be directly useful for running a farm or shop. (Only a handful of students actually did learn.) Since there were no machines to do this usually simple work, ciphering had value. Today, the need is to understand the uses of mathematics and the machines that can do it a million times as fast, and more accurately. Yet math tests commonly demand ciphering ability, which is taught --now with little relation to real needs--much as before.

The poor teacher forced to work in a box and teach in what is regarded as proper conventional style becomes the victim of a combination of concepts long demonstrated to result in the weak learning now being officially and popularly deplored:

1. The Teacher must aggressively teach the students, who will remain largely passive.

2. The Teacher will cover the material of the grade, with little regard to how well it is learned.

3. The Teacher will expect a good deal of failure, and poor learning, from most students, and this is normal and acceptable.

4. The Teacher knows the material to be covered, or is supposed to, and can only teach what is known --in short, the Teacher's knowledge "caps" what the students can learn.

5. The Teacher, by demands of the school structure, must also cap learning by not allowing students to get into the work to be covered in a higher grade.

It seems evident that this combination is intolerable for school, Teacher and students alike. Major school change must seek to escape from the devastating limits of the classroom. That some teachers valiantly struggle against these negative factors with occasional success does not change the picture. Why should any teacher have to fight the structure, every day? Why should caps be put on student learning?

## THE SELF-SERVICE IDEA

Implicit in the above "factory" model of school is the viewing of students as raw material to be processed by the teachers. The youngsters are seen as incompetent, ignorant, untrustworthy, and in need of the constant threat of punishment.

The child of five or six who comes to school has probably had considerable experience in moving about the home, the yard, and the immediate neighborhood, perhaps even making purchases at a nearby store. But the school insists he or she cannot go to another room within the school, or to the bus exit, unless put in a line and supervised closely. While there may be legal and other reasons, the effect on the child is to be treated as an incompetent. Some very young children these days are given, at home, "latchkey" responsibilities--in contrast to the school.

The traditional school view of students as inmates and patients takes a tremendous toll not only in actual expense but in terms of unpleasant and destructive relationships. When major school changes are under consideration, surely this pervasive problem deserves to be brought forward and thoroughly examined. The typical school attitude and treatment is far out of joint with reality. There is choice to deal with students in a sharply different, much more productive and acceptable way, that uses the energy, eagerness to participate, and capabilities of the students at all ages.

SCHOOL EXAMPLES

Teachers, content specialists, or others often try to "prescribe" reading for individual students (the student being regarded as a patient) on the basis of judgment or scores. This can be a burdensome task, not always successful. At the public library, however, any child can explore open shelves, select what looks of interest, and take books home without hindrance or unsought advice. If a book turns out to be too hard or less than fascinating, it can be taken back without penalty or remark. Facilitating and encouraging free library use can prove more resultful, at no cost.

In Physical Education, students are usually told what to do, by instructors relying on judgment which can be defective, resulting in injuries and fear that inhibits effort. When students are permitted to determine their own limits, as on a playground, climbing or jumping as they judge best, far fewer injuries result. Invited in PE to attempt more when ready and confident, many youngsters may go further in developing abilities than when ordered or directed.

Students readily learn individual assignments and most will happily take on assignments such as collecting, monitoring, caring for animals, safety work, housekeeping and the like, if given responsibility but not closely directed. Told in detail what to do and when, they more likely resent being "bossed around." The same principle is being used increasingly in industry, as in one very successful airline that lets employees take over what were executive decisions, within guidelines. Playing football, students take their positions and discharge the duties of a play without need for constant direction, improving by specific, individual coaching directly related to an actual occurrence.

> Students in many schools walk out at the end of the day, leaving the custodial staff to clean up. In other schools, students accept the routine of cleaning up and putting all chairs off the floor. Teachers in the first kind of school may avoid projects that make a mess, for fear of custodial displeasure (and possibly retaliation.) In the second case, teachers have no such inhibition, and students learn good attitudes and habits rather than "let George do it."

The "self-service" principle that is widely used in retailing recognizes that the customers are not helpless, and prefer the freedom and choice of self-service if proper facilities are provided. (In service food stores, for example, customers might have choice of 4,000 items, as against 16,000 in a self-service store.) The cost of self-service operations normally falls far below that of service. The same principle can be applied in schooling to great advantage.

This does not mean offering many electives--these are usually not self-service, but are taught. Instead, the self-service approach tends to make such electives less needed, since students can get a wide range of knowledge and experience within the "basic" areas.

To illustrate the principle in simple terms:

a. Service approach, teacher directed--students are required to read eight books in stated order.

b. Self-service approach--students are directed to read 10 books, selected from a list of 18. over a period, in any order they wish.

Case (a) results in a struggle for the teacher to get compliance, and a maximum of eight books being read. Case (b) results in high compliance, with a number of students reading more than 10 books, with little demand on the teacher. Individualization takes place automatically, as students exercise choice.

Invited to create or choose their own projects, working alone or with other students in a small team, student enthusiasm will often run high, and staff need only guide and facilitate, keeping the project related to the basic areas of study. Projects involve mathematics, language arts, science, social studies and more in a realistic, immediate way. The students involved are not learning set answers to exam questions, boring and pointless...but may very well accomplish solid learning which will permit doing well on tests and exams, particularly with some brief preparation for the artificialities of tests.

## MOVING AWAY FROM CLASSROOMS

Practical effort to break away from "the curse of Horace Mann," the graded classroom, can take various forms. These can be worth brief examination here, although much more intensive study and thinking is required to institute new and better structures.

DIRECTIONS OF CHOICE

| GO BY INCREMENTS | MAKE LARGE JUMPS |
|---|---|
| Move in stages as circumstances offer opportunity | Working from a theoretical base, begin projects |

It always sounds easier and less scary to propose change through taking one step at a time. But, as suggested previously, this may not be true in many cases. A large leap can have the advantages of being bold and exciting, and not requiring a whole series of changes to get to the same objective. We can see how this applies to the problem of "getting the teacher out of the box."

Looking at conventionalbut not rigid schools, we can usually find many instances of typical classroom teachers, at all levels, who have broken away to a degree from isolation. This may occur in a number of ways that move toward cooperation, joint, and team effort:

--Two teachers close by begin helping each other out, as by keeping an eye on the other's room to cover a short absence. They may exchange ideas and materials, confer on problems, help out at times of overload. Usually they are friends, working this way casually, as relations develop.

--Two nearby teachers arrive at a verbal agreement to swap classes for particular purposes. For example, one may do poetry while the other does science. The Principal may have given tacit or explicit approval.

--Two teachers work in adjoining classrooms. They have had most of the wall between knocked out, so that they can work with the two classes combined anytime they wish.

--Three or more teachers form a team and make many exchanges, while still retaining their own classrooms for most work.

--Three to five teachers staff a formal team, pooling their students in large spaces in various ways, or exchanging rooms in a systematic way. They confer and plan often to decide on common efforts, exchange information, resources, and ideas, and try to avoid unnecessary duplication of work. They operate with approval of the Principal. Home classrooms remain in considerable use.

--Teaming takes over formally, as school policy, directed and arranged by the Principal, with all teachers in teams for regular programs. Classrooms, as specific rooms and fixed groups of students, disappear. Teaming may be set up on an interaged basis, multi-year plan, departmental or interdepartmental arrangement, or other design. Teams probably acquire leaders, with higher authority and pay, and likely some administrative duties.

Forming teams becomes much easier when at least some of the staff have experience with some degree of working together. Where the Principal, perhaps encouraged by the Superintendent, lends active support and facilitates, results will likely be better and more quickly realized; but it may be that the Principal intervenes when teachers' own efforts have carried teaming to moderate levels, and more formal coordination is needed to go further.

Teaming can also be arrived at by the "large jump" route. Here the vision of what is to be constructed should be clear beforehand, aided by visits to operating teams, seeing films or tapes, reading literature, using consultants, or having visitors able to answer questions.

If this move is part of a larger concept (such as a brain-compatible project based on Proster Theory), the teaming takes on extra significance. The technique here may be the MILU (pronounced milieu and an acronym for Multi-teacher Interactive Learning Unit), with as many as 150 students. A MILU may use a suitable amount of open space, or a wing of an older school affording a number of rooms and corridor space, made into a unit, separated from the rest of the school. Within the unit, students and teachers move freely as activities demand. Some use of a room large enough to hold all students at once is required; an auditorium, music room, lunchroom or possibly outdoor space may serve.

Teaming, and the MILU especially, require behaviors that differ to considerable degree from conventional classroom practices. Most classroom approaches, in fact, may be gradually abandoned in favor of more effective procedures. Teams should not be viewed as just another way to continue classroom teaching, <u>but as ways to end it</u>.

## "FREE THE TEACHERS!" ADVANTAGES

Most of the cost of operating schools, usually over 70%, goes to instructional salaries and fringes. In classroom systems, as one study after another has shown for years, teacher time and effort is very poorly used. This is likely to mean that a system with a $20-million budget spends about $15-million or so for instructional salaries, of which half, or $7.5-million, goes right down the drain as gross waste--the teachers half the time are not doing what they ostensibly are paid to do, because the structure does not allow them to. For example, in many classrooms at least one-third of teacher time goes to some variety of control, not instruction. Other chunks of time go to paperwork, routine tasks, undesirable testing, and more, and other minutes are spent "doing nothing"--no particular activity is going on.

"Time on task" approaches do not begin to remedy this waste, which derives from the basic "teacher in a box" situation. To have a classroom school, we have to ignore most of what is well established about effective and efficient use of employees.

When we free teachers to work in multi-teacher, larger group kinds of settings, the advantages become tremendous:

1. Because the teacher is not alone with 25-30 students, but is working with other adults, no one student can disrupt proceedings. A difficult child can be removed while the work goes on; but experience shows far fewer problems arise to begin with. Teachers spend far less time and worry on control, and far more on instruction.

2. Teachers no longer feel isolated and helpless. They can confer, cooperate, assist or be assisted, and enjoy the normal relations with other adults (normal everywhere but in classroom schools) and the mental health and stimulation they bring.

3. Teachers, who in boxes rarely can observe others, have all the opportunity they need to see how others work, to pick up ideas, techniques, materials, sources, etc.

4. Teachers cease to be obsessed with "keeping the class busy" as a means of control and to avoid possible criticism. A shift can be made to student-driven, rather than teacher-driven operations. Students have opportunity to take on responsibilities, to "self-serve" rather than be passive. Teachers can observe and work with individual students far more than in a classroom.

5. The fluidity of the large group makes it easy to group students temporarily, from all students in one room down to one-to-one conferences. The old problem of trying to divide awkward numbers into classrooms simply vanishes. The number of students in a MILU, for example, is not at all critical unless there are large changes.

6. Where students remain in the same interaged large setting for more than one school year, staff can become better acquainted, and the student enjoys stability. Yet where chemistry is not good between student and one teacher, the problem is diluted. Students do not have "horror years" of being in one room with a weak or disliked adult.

7. Especially in interaged settings, student-tutor-student techniques--perhaps the most resultful and cost-effective of all--can be easily brought into use.

8. Pressures on teachers diminish sharply. A teacher can leave the setting as required without strain, since the rest of the team remains. Day substitutes may not be needed at all to cover short teacher absences.

9. Teachers can avoid much of the duplication that goes on in schools that have two or more classrooms covering the same work.

10. Teachers can have the use of more supplies and equipment, when pooled rather than in separate classrooms, and can get equipment or resources otherwise judged too costly.

11. Community volunteers, parents, and visitors can more easily be attracted, and more effectively used.

12. Teachers can have no need to hold students back so they won't go through grade ceilings. They can encourage all to learn as fast as they individually can.

13. Large groups in large areas can tolerate much more student and adult movement than do classrooms. Students do not feel imprisoned in one room and one seat, but learn to move in orderly ways as their learning needs require.

14. Teachers acquire a sense of "our school" rather than "my room," which can greatly help to build pride and morale.

15. Principals and Supervisors can visit and observe far more casually and often; can be more accessible to teachers; and in-service and similar programs can be more readily implemented.

16. Teachers, not being alone in a room, are less subject to crime, harassment, or threatening intrusions.

WHAT ARE THE NEGATIVES?

The transition from the box to larger, open units and teaming can hardly be considered simple, and even where participants show enthusiasm for the new organization, time must be allowed for the change, and strong support from Principal and others above must be provided and maintained. Teachers often are afraid of "being out on a limb" with some new project and finding support has not continued because of some change elsewhere. Again, the pilot approach has advantages. Large, sudden moves to nonclassroom activities may prove difficult because the people able to direct the new procedures get stretched too thin, and the level of confidence drops.

It can reasonably take many months, or a full school year, for teachers to discover that they can safely drop the ritualistic classroom behaviors they have always relied on. It probably will take less time to introduce and become used to new brain-based concepts and techniques--adding the new is always easier than dropping the old.

Time is also required for teachers who have not teamed to learn how to do so on a daily basis. A tendency is for the team to try to plan and agree too tightly, which results in far too much time in meetings, and some tensions. The team should seek about 80% or so agreement, but not try to button up every detail--as classroom teachers often attempt to do. If the team is working from theory and within an accepted protocol, operation is far easier, because agreement on the major policies and practices already exists.

Some teachers will not want to leave the classroom, for various reasons. Some may feel shy or reluctant to have others see their work. Others, especially if older, may feel too set in their ways to change, the more so if retirement is close. Whatever reasons apply, it may be unwise to coerce teachers into team units if they are opposed, although some may be flexible enough to accept on a trial basis (for a semester or year). Few who try in good faith will likely regress to the box.

## TEACHERS, THEIR ROLES, THEIR NEEDS

One reason Horace Mann liked the idea of graded classrooms was ease of staffing. Mann knew he had no way of finding teachers equivalent to the trained, experienced, well-paid male teachers he had observed in Prussian schools, who enjoyed high regard and public respect as professionals. He needed plentiful, cheap help. Widows, maiden ladies, and respectable young women--none of whom would consider factory or business jobs--provided the answer. They could be hired for a number of weeks, at perhaps half the salary males would demand. Put into graded classrooms, they would only need enough training to conduct that grade, under tight, firm direction of supervisors. They would be told precisely what to do.

Thus arose the tradition of the meek, suppressed, "hired hand" school teacher--who was even told how to behave outside school, down to dressing, courting, and religious observances.

The tradition lingers, and is even built into the structure of schools that continue to try to use the class-and-grade system.

DIRECTIONS OF CHOICE

| HIRED HANDS | CONTRIBUTORS |
|---|---|
| Perform as directed, operate within tight restrictions, raise no issues | Perform the crucial interface with students, as professionals |

Over the years, teachers have gradually improved their position, in part aided by union action. Unfortunately, unions have tended to concentrate on economic issues, largely ignoring wider concerns. But teachers still get low pay, still are part-timers working some 180 days a year rather than fulltime 240, and still are far from true professionals by all the usual standards. Many systems still show much of the "hired hands" attitude, relying on telling their instructional staffs what to do, and how, or trying to control them by directing what textbooks and methods shall be used, and by the use of tests in various restrictive ways--including directly testing the teachers themselves.

In short, the approaches teachers commonly use with students, and which fail endlessly, are applied by management to teachers, with

the unhappy results now being widely examined. There are schools, however, which have moved to seeing teachers and other staff as contributors whose role can be enlarged to the benefit of all. The schools that attain this are sometimes remarked as "exemplary."

The long effort to "teacherproof" programs, and to control teaching by trying to control and direct teachers, has clearly failed. The classroom "box" is one main reason--the teacher shuts the door and no adult really can know what goes on. A second is that the orders given the teachers may be intended to produce learning, but often are based on ignorance of how humans learn. In any case, teachers --like anybody else--resent and resist this kind of top-down direction from people who cannot demonstrate that they themselves have the needed expertise. Those who see themselves treated as hired hands, not owners or participants, can hardly be blamed for not "knocking themselves out" for insulting, uncaring superiors, some of whom (such as State officials or legislators) may be far from the scene. It does not take many such to ruin morale.

There are, of course, incompetent, ignorant, and mentally disturbed teachers. (No one wants to even talk about the last group.) The record shows schools seldom remove such teachers by deliberate process, because the procedures are difficult. Incompetent and ignorant teachers may be salvaged in some instances, if suitable programs exist and are used. They are rare. But efforts to direct them as hired hands will likely be even less successful than with better teachers.

In the observation of many, teachers in the great majority respond to invitation to participate as contributors. They either exhibit remarkable diligence, or would if not constantly discouraged and interfered with. Even those with poor educations and weak training can and will learn on the job <u>if circumstances permit and encourage.</u> That demands getting teachers out of boxes.

In classrooms schools, <u>reaching</u> teachers to increase knowledge and skills is difficult. <u>In-service</u> programs usually are considered laughably inadequate, as too little, poorly designed and executed; although they can be effective in schools that have reduced classroom isolation and have higher morale.

## THE "CONTRIBUTORS" CHOICE

Once teachers are viewed as the people who do the instruction and as realistically "what we have," the door opens to <u>making the best possible use of personnel</u>, after winnowing out, as practical, the ones seen as least promising and most resistant to improvement.

Teachers can then be viewed as individuals who (like students) are stronger in some areas than others, and whose strengths can be used to advantage. Here again we must depart from the idea of standard "classroom teachers," or interchangeable parts--an aspect unions have encouraged, short-sightedly. It seems elementary enough that an enterprise of any kind must have an organization that recognizes individuals and uses their assets.

Once a school begins to ask, "How can we use our teachers to best effect?" it must begin studying organization as well as assignment.

Just as students can and do "blossom" in favorable learning settings, so will teachers. As has been said, a teacher with 10 years experience actually may have had one year's experience, 10 times. In the box, there is little chance to learn. In open settings, teachers can readily become active learners along with students. Allowed to use enthusiasms and special knowledge to advantage, they gladly will.

As with students, there is no need to remove control and direction and leave staff "at sea." Teachers prefer guidelines if they make sense and allow room to move. In the classroom system, teachers can do little for students already lagging badly, and must beware the grade ceiling on learning--"next year's work." In an open, large group, preferably interaged setting, these restrictions fade away. Teachers can concentrate on producing learning. Just how good outcomes are obtained matters less than results. A shift comes about, from directed hired hand to increasingly professional "learning-producer" who constantly seeks and studies better ways to achieve the prime objective: learning.

Once the teacher is respected as a contributor, help can be given by management in ways that go naturally with respect: providing facilities and equipment, and clerical help; not interrupting the instructional effort with buzzers or broadcast messages; reducing non-instructional, often demeaning duties (bus, lunchroom, etc.); protecting against hasty, uninformed public criticism; supplying a wide range of books and materials chosen by teachers; bringing teachers into discussion before decisions are made; inviting and carefully considering suggestions; recognizing in some visible way outstanding effort and achievement...to name some. Much in this direction can be done even before classrooms have been discarded.

Teacher turnover is too slow to look to replacements as a cure; and replacements promise to be few and often poorly prepared. The sometimes surprising potentials of existing staff need to be seen and used.

## PRINCIPALS, THEIR ROLE, THEIR NEEDS

The "effective schools" effort, though diffuse, often vague, and sometimes so naive as to be silly (for example, "it's better to have a good person in charge than not to"), has at least put more emphasis on the importance of principals. Systems cannot achieve change at any higher level than the individual school building --that is where the instruction-learning interface has to occur. Change has no real meaning until it reaches the student. That in turn means that the Principal plays a key role, whether it be positive and active, negative and resistant, or passive.

What principals do, or don't do, matters. Changes do or do not take effect, or survive, as the result of official or tacit support or the opposite.

Studies have shown what can easily be observed: that principals vary enormously in style, preparation, and capabilities. For many years the chief function of the Principal has been clear though seldom stated: to keep his or her school running smoothly with the minimum of disturbance visible to the public. "Keep the lid on; don't make waves" was the golden rule, well understood. Quality of student learning was far down the list of objectives usually, if indeed on the list at all. The Principal who did make waves had to risk losing support from above as complaints, even a few, came from parents, taxpayers, or board of education members, and perhaps from staff as well.

The odds were stacked against the Principal who sought to move the school towards "excellence." The risks were great, and possible rewards hard to foresee. Even success could lead to jealousy and undercover sniping from others in the system.

"Outstanding" principals, accordingly, tended to be charismatic or politically skillful individuals who could win concessions to do things their way and get special privileges from the system, but at the price of not publicizing or seeking to disseminate their superior approaches. Thus some schools became "islands" having little influence on the system.

Today, amid pressing demands for school improvement on a large scale, these leaders provide little that can be replicated. For example, some had enough "clout" within the system to be able to select staff and transfer unwanted people, or to get equipment and supplies--even special funds--obviously not a practice all others could follow. The "exceptional" principals had to be exceptional and provided no useful model in these respects.

The present need is acute for principals to establish role models and modes of operation that can be replicated when shown to produce student learning gains.

This does not mean that principals must be alike in style or even background. It does imply that principals, like teachers, must be used by management to best advantage, operating on the basis of guidelines, principles, and theory that can be shared.

No system can be built on exceptional people--by definition. The unusual person can indeed be welcomed and utilized, but one cannot say to parents, "Sorry, your children will have to suffer because we have only a few exceptional people." The system must be such that the "ordinary" people can learn to operate in ways that serve all the students.

At present, a huge gap plainly exists where there should be strong guidelines for the Principal. (This Guide suggests that brain-based theory and applications promise to provide at least one way of meeting this critical need.)

It may be helpful to principals and higher management to consider these options:

DIRECTIONS OF CHOICE

| MANAGER | LEADER |
|---|---|
| Perform executive functions to move the school forward | Perform as the instructional leader above all |

Bringing about major change can be approached either way, but the choice may offer a more manageable path. While at present many voices urge that principals be instructional leaders, the plain fact is that by no means all are qualified. Most principals have taught, but usually not for long and only at one level; and as has been stressed here, teaching does not reliably produce learning. We cannot assume that the "good" Principal (a) has had substantial instructional experience, (b) that it was sufficiently successful in producing learning to support leadership, (c) that the individual has the personality and skills to act as leader in this area, and (d) that the Principal is thoroughly up to date on newer understandings of resultful instruction.

Teachers are reasonably reluctant and hesitant about accepting leadership from a person, however capable, who does not qualify in their view as able to direct them in instruction. This is a problem that can be overcome in due course, but is an obstacle.

But the Principal can become authoritative on new instructional concepts and practices, and by moving from this base, more easily gain teacher interest and acceptance--the more so when they are able to see these ideas actually working. The use of recognized consultants and visitors can add to credibility.

Accepting the leader role, the Principal needs, of course, to keep running the school. The orientation swings, however, to learning, and decisions become based on what effect they will have on adding to student achievement.

Accepting the manager role, the Principal focuses on facilitating the major changes required to make large advances in the outcomes, by encouraging and aiding those staff members able and eager to plan and make the necessary changes in organization, use of people, and instructional settings, and also by bringing in, as specialists or consultants, those who can provide instructional leadership, information, and technical know-how.

Clarity as to which role is being attempted may greatly help to find practical solutions.

## LIMITATIONS IN MANAGING

It has long been noted that typically the Principal has far less hard power and authority than responsibilities reasonably demand. Nominally "in charge," the Principal nonetheless has to operate as a rule by persuasion and gentle urging rather than by issuing firm orders, which may bring confrontations and serve to show that the authority professed is not really there. "Tough" principals who try to run a tight ship may well discourage staff and reduce the entire school operation to humdrum, routine mediocrity--acceptable formerly as a means of keeping the lid on, but futile today when the demands are precisely to end mediocrity and business as usual.

The Principal who will show initiative and launch new programs if given the chance still needs substantial and reliable backing from above in management, and from the Board of Education. He or she will also need support in the form of resources, and at least some funds to pay for changes, which normally entail some temporary extra cost.

The Superintendent with several or many schools has excellent opportunity to invite the Principals to seek changes in various ways, success being measured in terms of student achievement primarily. If one or more models emerge, replication can follow. But not much may happen unless the Principals get assurance of strong and continued backing, evidenced by provision of resources when requested. The "orders from above" approach will likely produce little--the Superintendent and Board also have less real authority than needed.

## SOME SOURCES FOR ADMINISTRATORS

One of the most trenchant criticisms of schools is a general failure to look for alternatives. A reason may be the lack of staff assigned to this practical form of research. But that may also reflect the long tradition of clinging to the status quo and resisting rather than welcoming alternatives. Once policy calls for striving for change, a program can be easily instituted to find out what others are doing, what success results, and how the experience might be utilized. These are some readily available sources.

1. Look within your own system--there could be surprises!

2. Look at nearby schools, querying principals.

3. Check with non-public schools, especially Montessori, by means of visits following preliminary phone calls.

4. Query faculty at nearby colleges of education, asking for references to schools that may be of interest.

5. Place low-key inquiries in local press, PTA bulletins, and the like, stating that there is interest in knowing about successful programs elsewhere. Parents and others may have experience with alternative schools to which their children have gone.

6. Read the educational press with an eye out for references that may be worth following up, to schools, school systems, or organizations favoring or promoting alternatives.

7. Contact research organizations, including regional agencies, and national organizations. Editors of major publications may be able to respond, or make suggestions.

8. Contact local or regional foundations.

9. Check with State offices, finding the right people to ask.

10. Keep a watch for consultants. Especially, ask around at conferences and other meetings.

11. Make inquiries via unions, associations, as feasible.

In all cases, make clear at the outset that your interest is in "hard" practical plans and approaches in use or ready to use; and that you want to talk with people with serious exposure to alternatives, not beginners or "wishers."

## A FEW CAUTIONS ON RESEARCH

Millions of dollars have been spent on what has been called educational research but has proved of little or no value in schools.

Research projects rarely begin at the request of working school people. They often serve the needs of the researchers, being done as a doctoral project, to get a grant, or to justify funding that has been allocated. The topic and scope often relate not to need so much as to public relations, windowdressing, and to "getting aboard hot topics." To observe this is not cynical, but merely realistic. Some major studies have had admitted political aims.

Few researchers worry too much about putting findings in a form that serves the purposes of working educators, or decision makers. The researchers usually don't feel that is their responsibility, and may have little expertise in schooling beyond the research processes. They tend to be much more concerned with what others in the research community may think.

Very rarely do we see instances of researchers seeking to solve a pressing school problem. In the nature of most research, it tries to isolate some area and look only at that.

In the effort to look scientific and proper, "control" groups will often be used, and a difference is looked for between the control and the "experimental" group outcomes. This effort may be futile --it ignores the many other factors that may be affecting one or both groups to varying degrees.

The great bulk of research projects that emerge with some claimed finding report only apparent correlations: changes in A seemed to coincide with changes in B. In science, however, such changes are considered, as a fundamental rule, not to have causal significance. Educational research commonly violates this rule--a hasty guess is made that some causal relationship exists--and often there is another assumption that A causes B, rather than B causing A. The safe, standard rule used widely is that correlation may be worth investigating, but does not TO THE SLIGHTEST EXTENT indicate that ANY causal connection exists. Educational researchers often put in a note to this effect (though not so plainly), but then go right ahead and present findings as if causally significant.

"Significance" is another sore spot. What is meant is that the numbers may be statistically significant--that is, not the result of pure chance or accident--but that does not mean at all that the reported findings are significant (meaningful or important) in the usual sense of that word. When research is publicized as significant, that term may be misunderstood by many.

Educational research often is reported in the general press on the basis of summaries--a 500 page report may be reduced to two pages of press release. Even in the educational press, the findings may be only summarized so much as to change essential findings. For example, the much discussed "time on task" main study actually found that this factor has only a small effect in the whole setting, something less than 10%. That did not get into most news stories.

Many studies, even outstanding ones, have been found, on further use of the data, to be misleading. The largest and best known on "open classrooms" was later retracted as faulty, after its negative findings had been widely published. The work relating to Title I programs later was completely reversed. Long battles have raged over other research, without clear conclusions.

"I AGREE--IT MUST BE RIGHT"

Looking at the uses made of research, one can hardly miss seeing that overall the findings that fit with the status quo win ready acceptance, while those that question it may be ignored. Teachers, administrators, superintendents, board members all welcome being told that what they are doing, or what they believe on a common sense basis, is supported by research. Equally, they tend to turn away from what contradicts. We may assume that the present drive for change, based on recognition of the acutely poor outcomes of status quo methods, may alter this view, to some degree.

A fundamental problem with much educational research is that it is conducted in classrooms. Since classrooms are busy places that vary a great deal, and since the "box" severely limits what can be attempted or studied, the resulting research at best tells us nothing whatever about what outcomes might be realized in other, nonclassroom settings.

The research almost never addresses the key question, "what would be the best way to bring about student learning?" but instead at most compares A and B classroom methods. We learn nothing about what might happen with C, D, E...Z methods, or still others that can be used only out of classrooms.

These criticisms are not intended to suggest that all research is without value. The facts do force us to realize that even when some major study is presented as "research" from what seems a reputable source, it should be regarded with great suspicion until verified as reliable and useful. That step always requires going to the original report for a sophisticated analysis.

In many research projects, reported learning outcomes rest on the giving of various tests. These, too, are subject to intense and often valid criticism. Their use may invalidate the research.

## ON THE PERILS OF TESTING

Faith in testing on the part of people not engaged in instruction seems to run stronger than even love of agreeable research. But as all in any way engaged in using tests know, it is a tricky and often treacherous business. Those who cook up great plans for making the schools excellent tend to rely heavily on testing, as if the whole matter was simple and reliable.

In the old days, testing was relatively simple. The teacher made up and gave exams or quizzes, or made use of "official" ones that came from "above." Living people scored the papers, and awarded scores based on the amount of error. Most of the questions could be answered by remembered "right answers," or by performing a few simple procedures, also mostly learned by rote. Ability to read or write English was estimated by teachers who observed the student trying to do so.

With the invention of mechanical scoring over half a century ago, we entered the age of the "multiple choice" kind of test, and the "standardized," widely used tests that were "norm-referenced," or scored in regard to how many other students did on the test. These tests were cheap to produce and use (but very profitable to most publishers), and were promoted with impressive snake-oil techniques with much success. They now intimidate many critics, who hesitate to challenge the awesome term "standardized" and the sources of the "instruments," armed with high degrees, titles, and abstruse math used to quell any stubborn dissidents.

Clearly, however, the "mechanical" format forces the testmakers to use artificial methods. A simple soul would test spelling ability by calling out words and asking the student to write them out. As that can't be done on these tests, the student instead is shown a word spelled four ways, and asked to mark the correct spelling. That is not the same thing--it is closer to proofreading that originated spelling; but the test mechanics dominate. Many highly important aspects of performance must be ruled out to fit the form of the tests.

### CLINGING TO PAST FAILURE

What should be tested? One wants to answer "what was taught!," but that becomes a criterion-referenced test, quite a different animal that must be tailor-made, not used for everybody. Therefore the norm-referenced testmakers explore texts and methods widely in use, over many years, and base questions on these. Thus it comes about that a school using newer materials and methods may be at a disadvantage; students may have studied what is not tested. To make matters worse, these tests usually incorporated questions

of the "intelligence test" type, which require a peculiar kind of test-taking skill to answer, or questions ("items") deliberately made vague or confusing. The object was to get a greater spread of scores. Some test publishers recently have promised to reform and modernize.

> Before any test is purchased and used, the maker's statement of its purpose should be carefully studied, and copies of it should be given to board members, administrators, or others for approval. These statements will often astonish the many who suppose the test is to show and quantify "what students have learned."
>
> In publicizing results, candor and accuracy call for making clear what the test is for, in the maker's language. Giving out figures that, as published by the media, mislead or mystify can cause backlash and damage staff morale, as they lead to public mistrust and suspicions.

## "MASSAGING THE RESULTS"

When much depends on test results--and most state plans promise to put more emphasis on them--those concerned and affected will find ways to "massage" the numbers. It should also be borne in mind

> --The continued use of the same or similar tests year after year will tend to raise scores; introduction of new tests may sharply drop scores.
>
> --Scores strongly tend to reflect the economics of the student body and community. The higher the incomes, the better the scores. This registers the obvious fact that in higher income homes students have more access to many resources (books, encyclopedias, visits to theatres, museums, libraries, travel experiences, plus the direct help of more highly educated or cultured relatives and friends.) The scores, in relation to the norm, must be evaluated in the light of this kind of advantage or handicap. We may suspect that schools in higher income communities like tests that show students scoring well above national norms...and claim or accept credit properly due to economic factors.

Test results are seldom carefully checked to eliminate simple error and sloppy handling. Nor are test answers reviewed to see where students had problems and what the implications might be. In this sense, testing takes time and money directly from instruction. It often happens that testing is used most in places where learning is poorest--thus depriving students of still more needed instruction, and reinforcing the notion that "these kids can't learn."

## SCORES WERE POOR--NOW WHAT?

The prime purpose of tests commonly seems to be (unstated) to help decide where to point the accusing finger. If scores are low, or fell, someone should be punished, or threatened.

This, of course, is part of the "pound the table" attitude that remains popular although it usually has reverse effect. It is like telling a golfer "you must do better" without showing how to do better. The additional anxiety of "trying harder" will likely just increase tension and bring worse results.

In some school situations, morale may be low and staff in fact is not making maximum effort. But why is the morale low? Finding out and correcting what is wrong can be productive. In the general situation, staff would prefer good outcomes to poor. Their problem lies in lack of knowledge of how to do better, or obstacles that prevent this. While in some cases test scores may prove an incentive, there seems to be greater risk of a common response: staff concentrate more on raising scores, and move further from sound teaching. This may show up acutely where "gates" or minimum competency tests are used: staff devote attention to the students at risk, at the expense of the overall effort.

Tests, far from resolving existing problems, often do little in that direction, while they create serious and larger new problems.

Testing makes more sense (although we must remember the defects inherent in the tests) when they are used to verify that gains have indeed been achieved. In this use, they should of course follow major change efforts. New kinds of "verifying" tests may be needed.

## POSITIVE QUALITY CONTROL

Far better than "test and blame" testing programs are those changes in school operation that enable and help instructional staff to monitor student learning as it occurs, and to move early and often to prevent lagging and failure. In the classroom "box," this can be difficult; there is only one teacher and a wide spread of students--the task is almost impossible. In a MILU or other larger unit, team structure and flexible groupings permit and facilitate much more "coaching" and similar effort. Under less pressure to "drive" a class, teachers have far more time to observe and work with individual students. Instead of allowing failure and then trying to repair the damages, failure is prevented in the first place.

## PEOPLE HANDLING

School change will not come about unless the people involved cease doing some things they have been accustomed to do, and begin some new ways of behaving. Changes in facilities, materials, use of time, paper curriculum, stated objectives, and so on may help, but by themselves mean nothing.

There follow some suggestions on people handling, made particularly with major school change in mind. These may be useful, even if some are on the obvious side and hardly new, as a check list. All executives and administrators, in any enterprise, run the risk of falling into habits and attitudes that become "invisible" because they are so familiar they are not examined.

These are some general principles, widely found to produce better results in getting the job done within organizations:

1. Recognize basic drives. All humans in good mental health, from birth on, share two built-in drives: (a) to make sense of the world as they are exposed to it--understand "how things work" and relationships (patterns), and (b) to have an expanding degree of control over their affairs. Put in reverse, people hate to feel baffled and powerless. This does not mean they want to understand and control everything in their immediate environment; most people do not, and that sort of desire suggests possible executive abilities and desires. But people react badly to being given orders with no apparent sense, and to being treated as powerless automatons. It is one thing to be told "you can't park there!" and another to be told instead "don't park there--the gas company is coming to fix a leak." The first may produce an argument, the second willing compliance.

   People new to authority, or unsure how much they have, may issue orders, perhaps without common courtesy. (Teachers are all too often prime examples.) Those more expert will often avoid giving orders, but instead use the question form: "Could you please see to it that this door is kept locked? Thank you! Fire laws require it." If we consider the basic drives above, we can see the great difference. What is called "common courtesy" actually runs deep. In institutions, including schools, orders are too often issued in writing, which can be more destructive in effect.

2. Provide two-way communication. "Communication" implies not only a two-way relationship, but one that may extend over a period of time. For example, a directive is issued, but parts are not understood clearly, and explanation is requested. Later it is found that physical conditions in one instance prevent implementation, and further direction is called for. Still later it may be found that some costs are involved, but no provision has been announced for reimbursement. (In Teacher/Student relations, lack of fully adequate direction or explanation is common.)

   "One-shot" communications are relatively rare. People may need time to realize the implications and complications that arise. Provisions should be made at the outset for adequate time, review, feedback, and clarification--and possibly modification, even withdrawal, of the original directives.

3. Assign people responsively. The old assembly line in big factories usually told people what to do, ignoring their wishes and special abilities on the grounds that they were being well paid. A consequence was anger, labor troubles, absenteeism, poor quality control. Conventional schools, still based on the factory concept, may assign teachers in much the same way, and others also. Too little recognized as individuals by management, teachers may develop petty issues and jealousies and close their classroom doors so as to "do their own thing." Seeking to use people at all levels responsively to their special abilities, aptitudes, and desires can enormously increase effectiveness. People differ greatly; some want more responsibility, some do not. Some like to learn new methods, respond to challenge, and get fresh stimulation; others prefer the familiar. In the typical educational bureaucracy, the Principal finds many structural obstacles to using people sensitively, but much can be doable--even before breaking away from the deadly class-and-grade system.

4. Recognize the individual. In a business office, a typist comes to work and finds a rose on her desk, and an invitation to lunch. The occasion? Her third anniversary on the job. In a school, a teacher finds a clipping sent by the Principal, about the college she attended. A reading specialist gets a note from the President of the Board of Education about an article he has co-authored. These may seem small matters, but they indicate recognition and may produce a tremendous glow. The very fact that these are non-routine, "unnecessary" actions gives them importance.

5. Build membership. In a complex world, most people often feel a lack of individual power. Political and economic changes, acts of nature, accidents, neighborhood shifts, termination of various services, new legislation, all may affect daily living. As one consequence, most people like to belong to groups, organizations, or large entities, which convey a sense of membership and shared power--even though the power may actually be more imaginary than real and manifested in ways that clearly benefit them. Many companies, institutions, organizations manage to create and maintain a strong sense of membership, which people appreciate and respond to. Others fail to do so, with the result that employees speak of "them" as the far-off and perhaps mistrusted forces of management. In schools we often find this non-membership attitude (fostered by the structure that isolates people) rather than a sense of "us, our school." Where the sense of a school, of belonging as a full, participating member, is strong, we find also an admirable climate, less complaining, a far more positive and resultful approach to doing the job.

   School people feel membership when they are kept well informed--on what is happening or may happen that could affect them or the school, on proposals for change on which they may have some input, on conditions and achievement.

6. Maintain a talent bank. The talent bank, by whatever name, is used by the great majority of large organizations, via Personnel or what used to be called Manpower departments (now Human Resources). The object is to "keep an eye" on promising people, who may be assisted by special training or grooming, and also to be able to locate expertise of any special kind already on payroll. Using computers, the task can be fairly simple and inexpensive.

   For schools, the talent bank needed will vary, of course, with size, and emphasis may be more heavily on expertise, since promotion opportunities may be few. Teachers and others who show interest and knowledge in some area may be noted, and as possible encouraged to deepen their abilities in, for instance, testing and evaluation, remedial work, languages, audio-visual techniques, computer uses, horticulture, foreign countries, publications, and the like. One simple form of help is to provide the relevant journals or books in the staff library, or to arrange attendance at conferences. The individual recognition can be valuable.

# A PEOPLE PROGRAM FOR MAJOR CHANGE

When the decision has been made to seek major change in a serious way, looking toward much improved student learning, or other major change in such areas as structure, organization, curriculum or methods, plans are called for that "bring along" the many people who will be involved. Their support, general approval, or at least willingness to give proposals a good try is essential. Negative feelings, fear, grave doubts, or disapproval, or confusion can cripple the effort or bring complete failure.

The program that follows is not intended to manipulate people. The skillful use of manipulation can indeed result in the proposals taking effect, but by tricks rather than by winning solid and lasting support. For example, holding hearings pro forma at which people are allowed to "sound off" but with no intention of really listening to them, or "snowing" people by rigging meetings or debate so that selected "experts" are heard but objectors suppressed, can be called manipulation. The same really applies to the persuasion of audiences by charismatic or clever speakers or writers, even though no trickery may be involved. People may be "carried away" for the moment, but later feel doubt.

There are sound, respectful ways of inducing people to give their best, because their legitimate emotional and practical needs have been recognized.

1. Approach softly to minimize threat. When people are told that change is coming most will immediately feel anxiety about how it may affect them individually. Animosity may be generated by the announcement of a decision they had no part in. The first announcement should be mild, casual, and perhaps even vague to a degree. Instead of "a new curriculum will go into effect September 1" it should be "a new curriculum is being discussed, which if agreed on might go into effect as early as September. Ideas and views are being gathered from all who would be involved."

2. Show that the program is "for real." People, from experience, know that far more proposals are made than ever come to reality. If the change program seems tentative, or a trial balloon, they may just shrug and wait for it to blow away. It becomes essential at an early stage to show that the proposal is serious, and to emphasize its inevitability, as facts allow. For example, it may be related to new legislation or state requirements, or to demographic shifts. But aspects such as scope, timetable, details of execution, etc. can remain open, to be worked out with the help of participants.

3. Suggest immediate benefits. "What's in it for me?" tends to be the first question in the minds of those who will have to participate. The question should be answered by stressing the most obvious benefits for individuals, and those that may be achieved the soonest. For example, after the changeover, teachers may expect less paperwork, fewer discipline problems, relief from present pressures, etc., as may apply. Less early emphasis should go to broader and longer term benefits, though these should get attention before too long.

4. Make clear means are available. To show that sensible plans have been made, and resources allocated, show what means or tools will be provided, such as funding, extra people assigned, outside help signed up, and the like. This helps reassure the participants that thinking has been done and commitments made on a realistic level, and that the change does not rest on the assumption that everyone can take on extra duties in addition to day-to-day work. Showing how time will be freed for special training and preparation can be a key item.

5. Assure strong support from above. Make clear convincingly that the support from Board, Superintendent, etc. will be firm and continuing; and that participants will be protected against criticism during the "tender" months, when the actual functioning must be worked out. If possible, have the people "above" appear in person and evidence their strong resolve. If some opposition exists, show that it is relatively minor and foreseen, and can be dealt with. (Do not conceal opposition, which may later appear and cause distress because not expected.)

6. Make the principles known and understood. Use as much time and effort as required to assure that participants are completely clear on what the aims are and the main avenues of achieving them. During this period encourage questions and discussion. Try particularly to dispose of misunderstandings and distortions, and perhaps wild rumors, that may crop up. Be sure that key opinion leaders (press, influential parents, business leaders, political figures, organization heads) get attention and correct information; and ego stroking as may be advisable (even one such problem can damage a large move.) Do not link details of how principles will be applied to the main principles themselves. Keep the principles as few and as clear as can be managed.

7. Impress upon participants they will take charge. Make it understood by all that once the principles have been fully clarified and agreed on, the teachers and others directly involved with application will themselves take over the large,

continuing task of implementation. Knowing what the goals are and the parameters within which they are operating, they will devise and introduce, and have control over, the arrangements, method, techniques, materials, scheduling, operating rules, day-to-day problem solving, short and medium term planning, and allocation of disposable funds. In short, the participants will "run" the program, under minimal direction from above. It will be their program, not one forced on them in full detail for them simply to carry out. They will accept much responsibility, in return, for ensuring successful outcomes--learning. It is not expected that they necessarily know how to do all that is called for; it is expected that they will learn and work out the problems, seeking help as required.

Participants may at first be shocked by this demand, since they are used to being told and closely directed--the "hired hand" approach. Time should be allowed for adjustment, and to create conviction that they are really going to take "ownership" of the program. (Unless enough are willing to do so, the project may well be reconsidered or re-timed; it is not likely to find success. If staff has been alienated by past treatment and events, healing time may be essential.) Once participants see a new era dawning, one in which they will have far more freedom to contribute and influence operations, they will likely soon develop high enthusiasm and drive. Some will be timid and worried about their ability to take hold, but through teaming will have the support of others.

8. Stay remote so participants take charge. Participants will probably not take charge as intended if a level of management "hovers" over the effort, or a consultant leads too much. The attitude sought is "the job has been turned over to you--you do it, your way...and we'll come back to look at results." At the same time, management should always be ready to assist by providing encouragement, reference materials, information, arbitration of differing views--when directly asked to. The participants should feel challenged, but not "put on the spot" or abandoned. Help and guidance remain always available, and some may at times be proffered in ways that permit non-use if desired. Management should carefully avoid implying "see, you had to come to me for help," but also warn against any step that could be hazardous or involve legal risks.

9. Provide a "hand-holder". Make readily available, on part-time schedule and/or on call, a person with experience who is not in any sense a superior, who can be consulted quickly and informally (including by phone) to discuss any operational difficulty that may arise. Such a person should have good rapport with participants and not be seen as part of or being

eyes and ears of management, although able to bring problems to management where advisable. The availability of a hand-holder (by whatever name) gives participants much more comfort and assurance, as a quick source of help or counsel short of going to management. The hand-holder should be informally approachable, not an austere or dominating authority. The cost of the hand-holder, if brought in from outside as may be desirable, usually can be small. The person may not actually be used much, but is valuable nonetheless for being available. The relationship should remain strictly on-demand; the person should not volunteer services, take the lead, or seek glory.

10. Act swiftly to reduce major difficulties. Should events bring a critical situation--which can result from outside causes or personality matters, or inability to solve some aspects of the new operation, help should be offered promptly, including using outside consultant services. It can be expected, in any new operation, that "bugs" and "glitches" will surface. No project goes smoothly in all phases. Progress needs to be monitored constantly, by a variety of means that can be non-intrusive and non-threatening as a rule, but which can also include "hard" verification of student progress done in a manner acceptable to the participants.

11. Let participants see others succeeding. They need to be sure that the job can be done, that success is possible. Arrangements can be made to see others, in nearby schools, who are operating well, or by sending one or two persons to visit operations further away, or by using films, video tapes, and photo or printed materials. The use of phone conference calls may be practical and inexpensive. Visitors may come on invitation, or be brought in. If there is a chief consultant to the project, he or she can likely provide materials and make contacts. Relations may be established between similar projects that facilitate interchange of experience and techniques, and stimulation. Regional or national conferences may offer many opportunities for helpful contacts, even apart from the formal program.

12. Keep feedback coming. All participants will benefit by being kept well informed of results as they are verified, and of such matters as favorable publicity, parental response, interest at higher levels, comments of visitors, and other feedback. Some negative feedback may lead to correcting some weaknesses. As "owners," all such feedback will be of intense interest, and evidence that what is being done is of more than routine significance. Participants should always be kept the first to hear of matters affecting their project.

## A PARTING SUMMARY

1. Whatever the past achievements of our schools, very few today bring about student learning even remotely up to minimum requirements for a nation such as ours--let alone "excellence." Small improvements will be of little or no consequence in the light of the huge deficits and increasing needs. Sad to say, even "good" schools fall far short.

2. The classroom system has been tried for 140 years and at no time ever produced good learning results. It has an unbroken record of bringing a huge amount of failure, dropouts, and pushouts. We should and must get rid of the classroom, the obstacles it presents, and the waste it causes. However painful, we must face the clear facts.

3. Alternative ways of organizing exist and have served many millions of students. Still better structures and methods can be developed, as Teachers and Principals contribute.

4. The new understandings of the human brain, "the organ for learning," enable education, for the first time ever, to have and work from a comprehensive theory of learning.

5. The concept of brain-compatible education offers a clear, practical guide to applying learning theory and obtaining enormously better learning outcomes for all students.

6. Most of the large, complex "plans" for reform or improvement now being advocated or implemented do not address the key element: student learning. Many propose approaches that have failed again and again, and can be expected to fail once more. They still seek to make the classroom system work, despite its record of failure.

7. Much is known and available about how to use all the people in schools more effectively and productively. We also have substantial knowledge of how to plan and bring about school change of the magnitude needed especially by using the practical, least risky and least costly "pilot" method.

8. When students learn reliably and far better than now, other problems, including discipline, teacher burnout, high costs, absenteeism and public dissatisfaction, tend to evaporate.

# GUIDE TO READING

ON THE DISTURBING CONDITIONS OF SCHOOLS NOW

A NATION AT RISK: THE IMPERATIVE FOR EDUCATIONAL REFORM. Strong language from the National Commission on Excellence in Education. 65pp. U. S. Government Printing Office, Washington, DC 20002. $4.50.

ACTION FOR EXCELLENCE. A "comprehensive plan" to improve our schools. Distribution Center, Education Commission of the States, Denver, CO 80295.

A PLACE CALLED SCHOOL. John I. Goodlad and team provide a rich, solid, dismaying study of what is, but much less on what should be. Essential reading. McGraw-Hill, Hightstown, NJ 08520. $18.95.

HORACE'S COMPROMISE. Theodore R. Sizer takes an engaging look at high school teachers and their plight and offers some broad suggestions. Houghton Mifflin, 2 Park St., Boston, MA 02108. 241pp. $16.95.

TEACHERS, THEIR WORLD, THEIR WORK. Ann Lieberman and Lynne Miller. Realities of the classroom squarely faced, plus much useful and valuable information. ASCD, 225 N. Washington St., Alexandria, VA 22314. 145pp. $9.50.

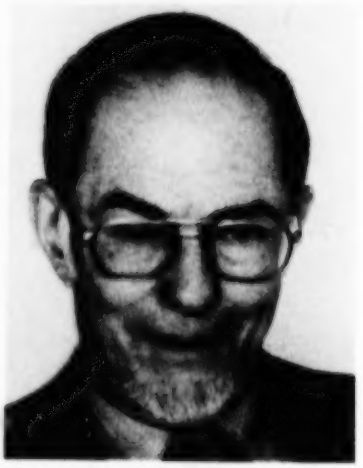
ON THE BRAIN AND BRAIN-COMPATIBLE EDUCATION

(NOTE: The first listing contains a bibliography of selected books that can guide reading in this area.)

HUMAN BRAIN AND HUMAN LEARNING. Leslie A. Hart. Written for the educator, to provide a clear, modern introduction to the brain, explain Proster Theory, and suggest brain-compatible approaches that can guide practical school reform. Clear, non-technical. Longman, New York, NY 10036. 206pp. Paper, $13.95. Available by mail, postpaid (check with order) from Brain Age Books, P. O. Box 427, New Rochelle, NY 10802.

HOW THE BRAIN WORKS. Leslie A. Hart. A basic, more technical but readable presentation on the human brain and Proster Theory of human learning. Basic Books, New York, NY 10022 (1975). Hard cover, 257pp. $16.95. Also available from Brain Age Books.

THE BRAIN. Richard Restak, M.D. Heavily illustrated, based on the recent 8-part Public Broadcasting System series. Offers a wealth of accurate information on many aspects. Bantam Books, New York, 666 Fifth Avenue, New York, NY 10103, or via bookstores.



As author, lecturer, consultant to many schools, and proponent for over 20 years of major modernization of schooling, Leslie A. Hart is well-known to educators coast to coast. Recognized as a pioneer and leader in the new, exciting "brain" approach to instruction, Hart is not only the originator of the most accepted brain-based theory of learning, but for years has worked directly with schools and students on applications, now proving practical and successful. Within recent years, Hart has been a frequent presenter at conferences (including ASCD, AASA, NASSP), guest lecturer at colleges, and contributor of more than 30 articles to leading educational publications. He has given more than 200 personal presentations on instruction and learning in the U.S. and Canada, and is constantly in touch with educators nationwide.

"Hart has put together, in clear, succinct language, a packet of advice without a blemish anywhere. I don't think he has missed a major point. This is a valuable, useful, timely contribution that should help prevent a lot of wheel-spinning."

PHILIP J. RUNKEL

Professor of Education and Psychology,
University of Oregon.
Author (with R. A. Schmuck) of
Handbook of Organization Development in Schools, 3d ed. (Palo Alto: Mayfield, 1985.)

"GUIDE TO SCHOOL CHANGE presents new, important thinking. It focuses on the process of change and how to implement it, and on student learning rather than teaching. Often outspoken, it includes some startling but practical specific proposals that rest on recent, brain-based insights into the teaching-learning process. I consider Hart's stimulating book 'must' reading for all concerned with educational restructuring and reform."

KENNETH B. HOYT, Ph. D.

University Distinguished Professor,
College of Education,
Kansas State University.